

WESTERN INDUSTRY



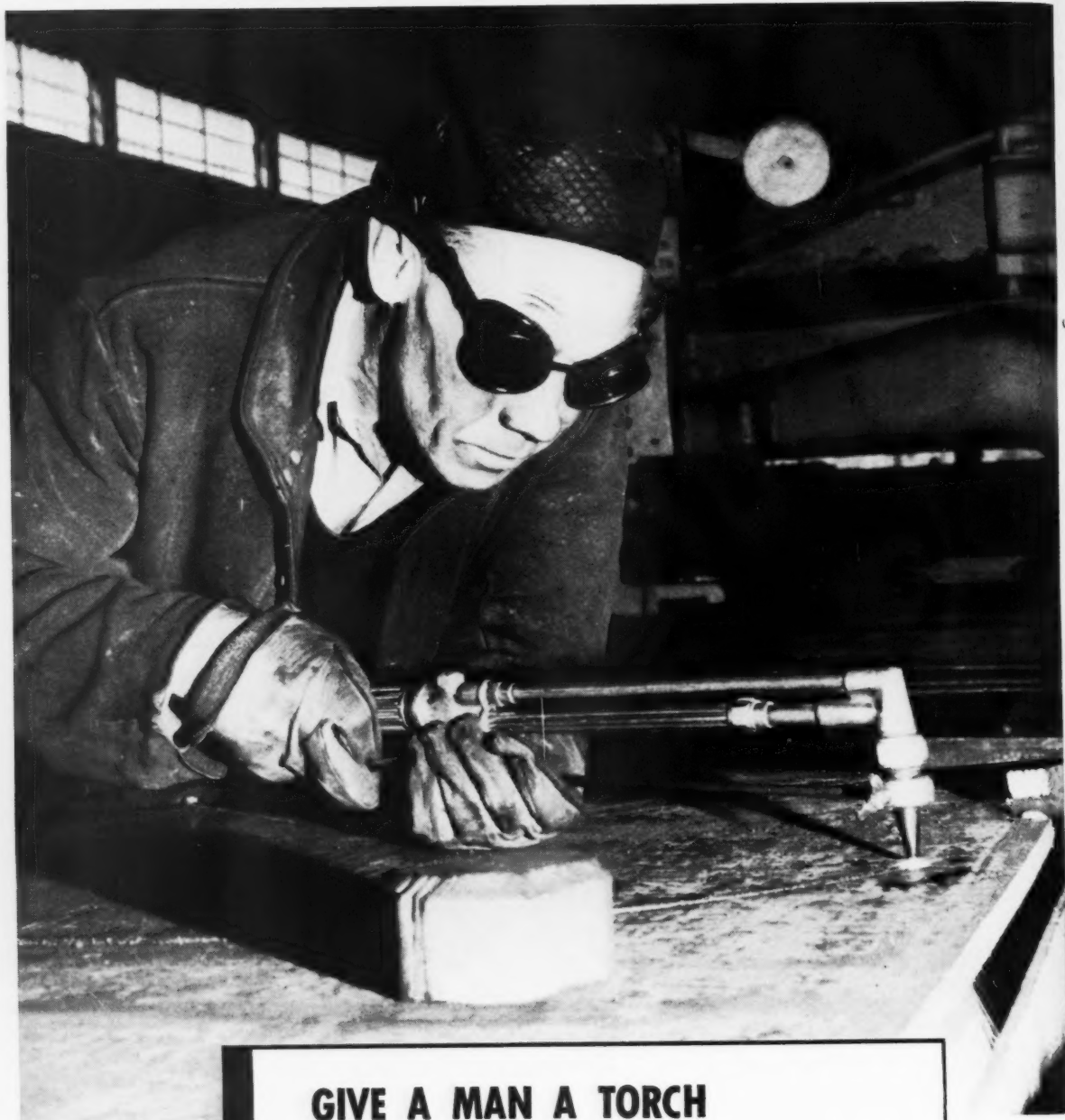
• Apparel is forecast as ranking seventh in employment in postwar Pacific Coast Manufacturing. Scene is a Southern California factory.

Twenty-Five Cents

VOLUME X

NUMBER 8

August, 1945



GIVE A MAN A TORCH HE CAN TRUST

Frankly, we have no way of knowing how many burners are using VICTOR cutting torches, but over 75,000 of them have gone to war. Of one thing we are sure—experienced burners, once acquainted with VICTOR torches, will choose them every time.

VICTOR EQUIPMENT COMPANY

844 FOLSOM ST. • SAN FRANCISCO 7, CALIFORNIA

DISTRIBUTORS FROM COAST TO COAST



Ad 136

Corrugated Transite...for permanent, fire-proof roof and wall construction



*Installation by Western Asbestos Co. of Corrugated Transite
for the American Forge Company, Berkeley, California*

FOR OVER 25 YEARS Johns-Manville Corrugated Transite has continually proved its value as the most efficient industrial roofing and siding material, particularly over skeleton frame construction. Thousands of installations have been made. Accurate records indicate that Transite assures the longest life and lowest per annum cost.

RESISTANCE TO FIRE: Johns-Manville Transite, in addition to being non-combustible, will withstand considerable temperature without cracking or buckling. No other material, so adaptable to general building construction, surpasses Transite in resistance to fire.

RESISTANCE TO WEATHER AND CORROSION: Corrugated Transite provides resistance to the corrosive attacks of practically all of the common acid fumes and gases. It is not affected by climatic conditions, high and low temperatures, or steam irrespective of its temperature or condition.

MODERN APPEARANCE: Many modern architectural effects can be obtained with Corrugated Transite. Its natural light cement gray color and uniform texture presents an attractive appearance. Transite can be painted, if desired.

DURABILITY AND ECONOMY: Corrugated Transite is made of asbestos fiber and cement, formed under great pressure into dense, unlaminated, monolithic sheets possessing unusual



*Leslie Salt Company, Newark, California, a recent
Corrugated Transite installation by Western Asbestos Co.*

strength, rigidity and durability. Since it requires no protective painting or other maintenance expense and because it reduces fire risks to a minimum, Transite is decidedly economical.

COMPLETE ENGINEERING AND CONTRACT SERVICE: Our Construction Department has installed over 5 million square feet of Corrugated Transite. We offer you the advantages that come with this background of practical experience. Inquiries looking to future construction are solicited. Consult our office nearest you.

Contractors and Distributors for Johns-Manville Corporation

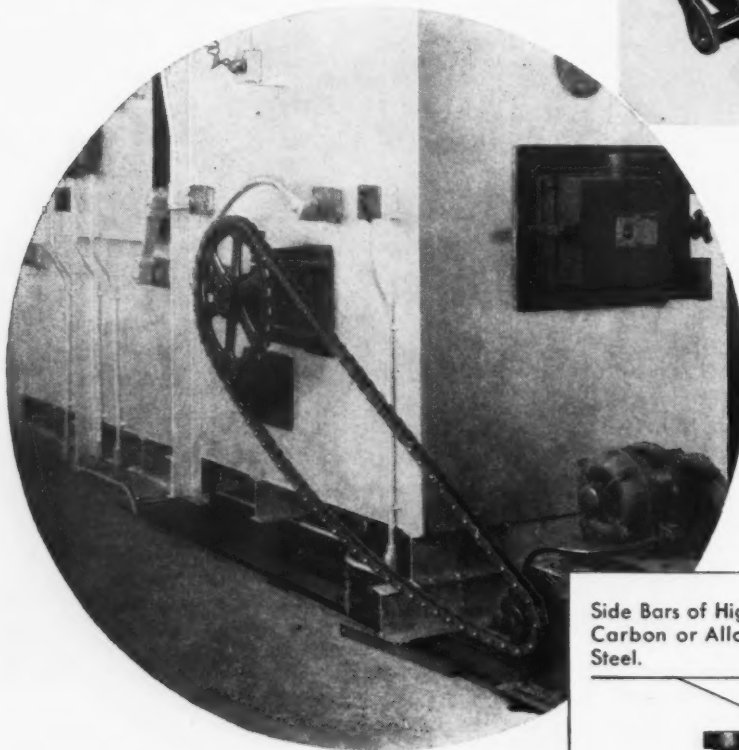
WESTERN ASBESTOS CO.

Engineers and Contractors

**675 TOWNSEND STREET, SAN FRANCISCO 3, CALIF.
OAKLAND • RICHMOND • SACRAMENTO**

NEED A CHAIN FOR HEAVY LOADS?

① **HERE'S A CHAIN** that's designed for extra heavy, extra tough service... Rex Chabelco Steel chain belt... the chain that can take up the burden of handling your heavy loads... more efficiently.

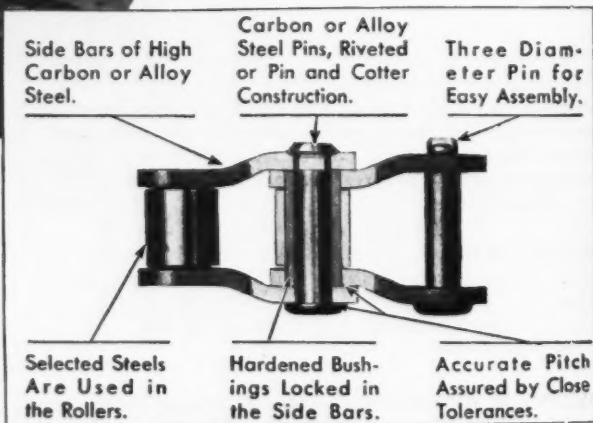


③ **WHAT MAKES IT SO GOOD!** Just look at this cross-section view of a Chabelco link. Note particularly the three-diameter pin. See how its milled flat end is locked in the side bar. Notice the offset side bar construction. Heavy force-fits of precision-machined parts assure the finest quality chains. That's why it is used for handling heavy loads and positive power transmission.

Rex Chabelco Steel chain belts are the answer to drive and conveyor problems where strength and long life are essential. The Rex Man will help you with your chain belt application problems. And for engineering data on Rex Chain belts, ask for the 768-page catalog, No. 444. Chain Belt Company, 1723 West Bruce Street, Milwaukee 4, Wisconsin.



② **THIS STURDY STEEL CHAIN** transmits smooth, positive power under the heaviest load conditions. On this electric furnace, for example, it drives the conveyor that carries a steady flow of metal parts through the furnace. Accurate timing and unfailing power transmission are of vital importance here. Heavy loads, shocks, tough operating conditions are all in the day's work for Rex Chabelco.



CHAIN BELTS

Manufactured in every available type for positive transmission of power, timing of operations and conveying of materials

CHAIN BELT COMPANY OF MILWAUKEE

West Coast Offices: Los Angeles San Francisco Seattle Portland

EDITORIAL COMMENT

The Surplus Property Board's Proposal

ABOUT as good comment as any on the Surplus Property Board's suggestion that the West finance its own postwar operation of Geneva, Fontana and other big war-created industrial facilities is that of Henry Kaiser, who said that the proposal is "stimulating."

The more that Western capital can be induced to contribute to building up an industrialized West the better, but that does not necessarily justify a "dollar down, dollar a week" policy of selling the facilities. If an entire industry has to be demoralized in order to keep a shoe-string promotion alive by artificial respiration, nothing has been accomplished for anybody.

Encouragement of new competition may, however, free an industry from domineering tactics of an established leader. But the mere size of a corporation is no proof that its existence and methods are injurious. It may very likely have gotten to the top of the heap by giving its customers more for their money. Each corporation is different from the next one, and no Surplus Property Board can decide any of these big plant disposal problems except on an individual basis.

One thing is certain to result from the Surplus Property Board proposal, that eastern corporations will be sending more of their top executives out West to get acquainted with the area and its people. They are likely to lose some of their New York or Pittsburgh viewpoint in the process.

Link-Up With Washington

ALIAISON with Washington has been set up by the Western States Council, by organizing the Washington representatives of the Western chambers of commerce into a group to maintain a contract with the Westerners in Congress. This is a much-needed step in the right direction, but we doubt whether it goes far enough.

There is too much danger of the Council and the legislators working at cross-purposes, and meetings should be provided between the legislators and the industrial committees that the Council is setting up in order to better acquaint the legislators with the industrial picture. The Council is endeavoring to handle each Western problem as a whole and to keep the West united, while the Senators and Congressmen are likely to be too sensitive to demands from their own districts, although it must be admitted that they have made some progress in working for the West as a whole.

Prosperity vs. Happiness

WHEN Z-Day comes, everyone will be busy and prosperous producing and having more things to eat, wear, see, hear, grow, ride, dwell in—or just have around for no particular reason. But does that mean there will be any more happiness? Will there be fewer divorces, more harmonious marriages, less selfishness in parents, more kindness and gratitude in children? Happiness comes from thinking, not from things. Along with our Committee for Economic Development, why not have a Committee for Happiness Development?

WESTERN INDUSTRY

CONTENTS FOR AUGUST, 1945

Editorial Comment	5
Spotlight on the News	33
Westerners Review Outlook for Light Metals Industry	35-39
Isogonics, Evolved by Western Man, Revolutionizes Drafting	40-41
Temporary Easing in Ship Repair Crisis	42
Western Industries Study Reconversion	43
Pre-Termination Agreements for Western War Contractors	44-45
Income Tax Deductions for Reconversion Proceedings	45
Preparing the Heats for Geneva and Fontana Deals	46
California Produce Flown to New York	48
Methods of Coast Firms to Gain Industrial Peace	50
Washington Correspondence	52-54
Westerners at Work	56-58
Regional Reviews: Wasatch Front	60-61
Columbia Empire	62-63
Tehachapi to Tijuana	64-66
Continental Divide	67-68
Puget Sound Area	69-70
Labor and the Industrial West	72-74
Forecast of Future by Plywood Men	75
Efficiency Kinks	76
The Western Outlook: News and Statistics	78-79
The West on Its Way	80-88
Western Trade Winds	90
The Showcase	91-92
Yours for the Asking	93-94
Advertisers' Index	94

OUR COVER PICTURE

• Apparel manufacturing in the three Pacific Coast states will be the seventh largest industry in postwar employment, according to the Federal Reserve Bank-CED study. Prewar, there were 30,100 employed; postwar, the total will be 40,000. Los Angeles is already recognized all over the country as the leading style center for certain types of apparel. Front cover scene shows an operator in the Cohn-Goldwater Mfg. Co. establishment in Los Angeles turning out work clothes, largest wartime production item in the industry.



Member Controlled Circulation Audit

25c PER YEAR

\$2.00 PER YEAR

Published by King Publications

503 MARKET STREET SAN FRANCISCO 5, CALIF.

A. C. PRENDERGAST, Editor

S. S. MORRILL, Assistant Editor

Washington Office: ARNOLD KRUCKMAN, Associate Editor, 1120 Vermont Ave., N.W., Washington 5, Telephone: DIstrict 8822.

Los Angeles Office: JACK O. HODGES, Southern California Editor and District Manager, 479 South Holt Avenue, Los Angeles 36, Telephone: BRadshaw 2-3935.

Chicago Office: A. C. PETERSEN, District Manager, 5833 S. Spaulding Avenue, Chicago 29, Telephone: PRospect 1685.

Copyright 1945 by King Publications

***It takes
BRAINS, SWEAT
and EXPERIENCE
to do a first class
ship-repair job.***

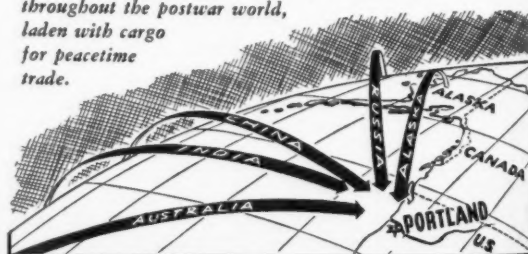


THOSE are the three ingredients that make up Commercial Iron Works famed "know-how"! And Commercial Iron's "know-how" has made it the leading ship repair firm in this port for the past 29 years.

Since its founding in 1916 Commercial Iron Works has been owned and operated by one family. Its top management, its engineers, its craftsmen and laborers have built up an enviable reputation on the Pacific Coast in building, repairing and converting craft of every type. Their varied experience covers tugs, river boats, air craft carriers, mine sweepers, landing craft . . . ships for the world's two greatest navies—the United States, Great Britain, and vessels for several foreign countries. Right now Commercial Iron is engaged in one of the greatest ship-repair jobs on the Pacific Coast for the United States Navy, adding to its vast accumulated experience . . . "know-how" that will be at your disposal in the not too distant future. Commercial Iron is building a permanent organization whose brains, sweat and experience will supply the "know-how" for postwar ship repair, conversion and new ship construction!

PREPARED FOR GLOBAL WAR ...AND GLOBAL PEACE!

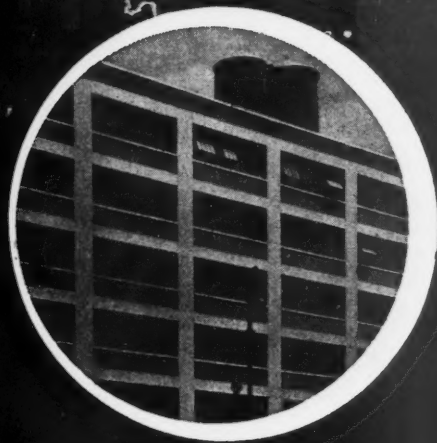
Commercial Iron Works is strategically located to serve by rail, truck and water the Pacific Northwest's vast inland empire, as well as the incalculable postwar markets of South America, Alaska and the Far East. Ships now leaving CIW dockside enroute to ocean warfare, will sail throughout the postwar world, laden with cargo for peacetime trade.



COMMERCIAL IRON WORKS PORTLAND, OREGON

CONTRACTORS • ENGINEERS • MACHINISTS • FOUNDERS • SHIPBUILDING • MARINE REPAIRS • DRYDOCKING

WHAT IS WEATHER-BOMBING DOING TO YOUR BUILDING EXTERIORS?



Raincoat Your Structures Now with Waterfoil

The Horn Research Laboratories took ten years to develop and test Waterfoil. It is unlike any other masonry protective coating. Waterfoil is manufactured of irreversible inorganic gels. These gels bond chemically and physically to concrete, stucco, or brick, to form a dense hard integral protective outside layer.

The Waterfoil "raincoat" has a microscopic porosity which lets the masonry breathe outwards and at the same time impedes water penetration inwards to prevent reinforcing bar rust, spalling or disintegration. Send today for the Waterfoil literature. It's important.

*Horn Products and Methods Protect Millions of
Square Feet of Surface Throughout the Nation*



WATERFOIL

THE UNIQUE TREATMENT FOR EXTERIOR MASONRY SURFACES

A. C. HORN COMPANY

Established 1897

Manufacturers of Materials for Building Maintenance &
Construction • 252 Townsend St., San Francisco, Calif.
1318 South Main St., Los Angeles, Calif.
519 White Bldg., Seattle, Wash.



MUST BE HERE SOMEWHERE

See if it's gone to shipping. Look in the top drawer. Ask up on the ninth. Ask Bill Frey.

Wasted time is business' No. 1 headache. Even without a war on, many business forms slow up the day's work. They invite mistakes, are cramped and complicated. Organization is hit or miss. Tradition rules, not efficiency.

Moore Business Forms, Inc., designs forms for some of the world's largest

businesses — and the smallest. Practical experience over the years proves this one fact beyond dispute: *business forms properly engineered can save precious time, speed output, cut running costs by thousands of dollars.*

The Moore specialist who calls on you asks: Is this form necessary? Does it duplicate any other? Is the sequence of entries logical? Does printing take advantage of standard paper sizes? Is

the form engineered to your system?

To learn how answers to these questions can benefit you, get in touch now with the headquarters of the nearest Moore division, or its local office. Moore consults with you, designs, then prints. The nine companies listed below have long been under Moore ownership. Now they combine under the Moore name to form the largest company of its kind in the world.

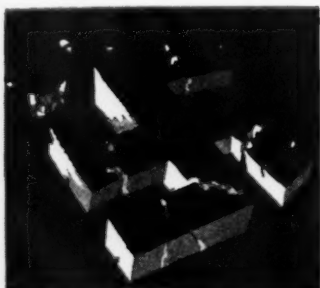
AMERICAN SALES BOOK CO., INC., NIAGARA FALLS; ELMIRA, N. Y.
PACIFIC MANIFOLDING BOOK CO., INC., EMERYVILLE; LOS ANGELES, CALIF.
GILMAN FANFOLD CORP., NIAGARA FALLS, N. Y.
COSSY-WIRTH MANIFOLD BOOK CO., MINNEAPOLIS, MINN.
MOORE RESEARCH & SERVICE CO., INC., NIAGARA FALLS, N. Y.
SOUTHERN BUSINESS SYSTEMS, INC., ORLANDO, FLA.

In Canada—Moore Business Forms, Ltd., succeeding Burt Business Forms, Ltd., Toronto
Western Sales Book Co., Ltd., Winnipeg and Vancouver
National Sales Check Book Co., Ltd., Montreal

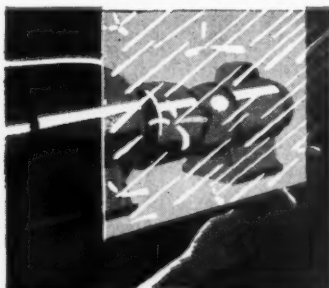
MOORE BUSINESS FORMS, INC.

ADV. BY B.W. 1952

THIN COAT WEATHERPROOFS EQUIPMENT FOR MONTHS!



1. Production cutbacks and contract cancellations will leave a great deal of valuable machinery and equipment temporarily idle. You'll want to protect it against rust and depreciation.



2. Many maintenance men have found Stop Rust D1 to be the answer for the weatherproofing of materials, equipment, machines, tools, etc., whether idle or in use.



3. Stop Rust D1 is the revolutionary weatherproofing product developed by Union Oil Company for military use and, since there is an ample supply, it is available to you *now*.



4. Stop Rust D1 is a liquid and easily applied by brush, cloth, spray or by dipping, after which it dries quickly to a hard, tenacious film. It leaves a protective film when applied to a vertical surface.



5. It is so effective that a coat 1/1000 of an inch thick will protect metal under the most severe conditions of sun, wind, rain, hail or snow for many months. One gallon covers several hundred square feet.



6. For more information as to how Stop Rust D1 can cheaply and quickly weatherproof your equipment, and to have a supply delivered, see your Union oilman or write Union Oil Company, Los Angeles 14, Calif.



STOP RUST D1

Another **UNION OIL**
Success-Tested Product



Industrial **LOGISTICS**

**Modern Science of Materials Movement
to Increase Profits by Reducing Costs**

YOUR selling price is the sum of scores of individual costs, plus fair profit. Can those costs be reduced still more—either to improve net earnings or to give customers a *better* price?

Elwell-Parker has answered that question, *with proof*, for Executives in more than 300 branches of peacetime industry. The proof is supplied through *Industrial Logistics*—a phrase coined by Elwell-Parker to describe the science of eliminating waste motions throughout the handling of materials, in Master Unit Loads.

"Industrial Logistics" is a new term, but the economy-principles it incorporates

are long-established—applied through the daily operation of thousands of Elwell-Parker Industrial Trucks and Cranes.

Industrial Logistics challenges Management to maintain the maximum flow of peacetime products through every stage of manufacturing, warehousing and distribution to the greatest number of customers, by means of a thoroughly-coordinated Plan. Thus Industrial Logistics is closely related to the placement of returning servicemen; the creation of more jobs; the control of costs and the broadening of markets.

To demonstrate the worth of Industrial Logistics in your business, Elwell-Parker will send an experienced Regional Field Engineer to help you to ferret out wastes in your present load-handling operations—and to show how they can be corrected with Elwell-Parker Truck and Crane Systems, properly installed. Executive inquiries are invited.

The Elwell-Parker Electric Company,
4175 St. Clair Ave., Cleveland 14, Ohio.



IRA G. PERIN

San Francisco 5 • 575 Howard Street • 'Phone: GArfield 1827
Los Angeles 15 • 1612 Maple Avenue • 'Phone: PRospect 5911

COLBY STEEL & ENGINEERING CO.

Seattle 4 • 525 Central Building • 'Phone: ELliott 5722

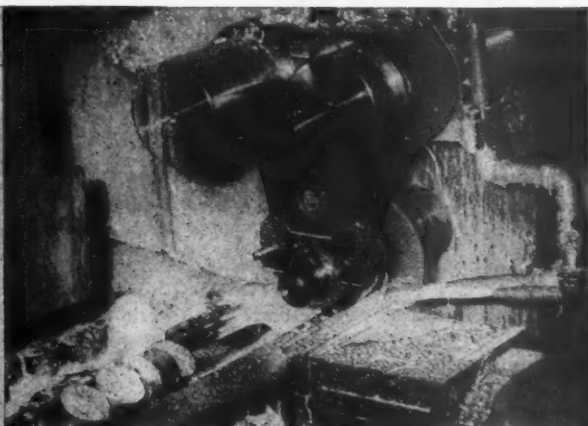
ELWELL-PARKER

POWER INDUSTRIAL TRUCKS

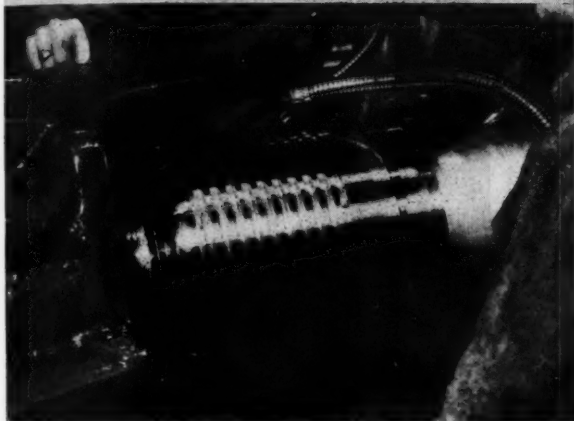
Established 1893

The "right" cutting oils will help

**Boost production
... save money**



**lengthen tool life
... improve finish**



AT SHELL, cutting oils are no sideline. Years of research and job-testing by Shell chemists and engineers have resulted in a line of oils that spans the whole field of today's cutting requirements.

Because they are "right for the job," Shell Cutting Oils have boosted production in small plants and large ... have lengthened tool life ... saved hundreds of thousands of dollars for big manufacturers.

Basically, Shell Cutting Oils fall into these groups:

Shell Virgo Oils are the soluble cutting oil type which can be mixed with water to form an emulsion. If desirable, they can be readily removed by water from finished parts. Virgo Oils are non-foaming ... excellent for cooling.

Shell Lata Oils include the sulphur and sulphurized-

chlorinated cutting oil blends in a variety of grades. Both transparent and opaque oils are available in this "extreme pressure" Lata class. For cutting the "tough" metals and where perfect finish direct from a machining operation is essential, many operators prefer the Lata Oils.

Shell Pella Oils are high quality mineral-lard oil blends. In the less severe cutting operations, Pella Oils have been found ideal for reducing friction, producing smooth finish.

Shell Aluminum Cutting Oil is especially compounded for aluminum working.

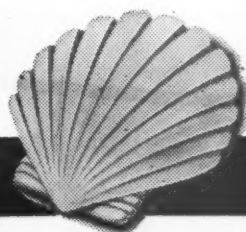
Call in the Shell man—let him prescribe the right cutting oil for your job. No matter how you cut it, or what you are cutting, Shell has the right oil. Shell Oil Company, Incorporated.

OIL IS AMMUNITION... USE IT WISELY

SHELL CUTTING OILS

VIRGO • LATA • PELLA

Shellenengineered for the job

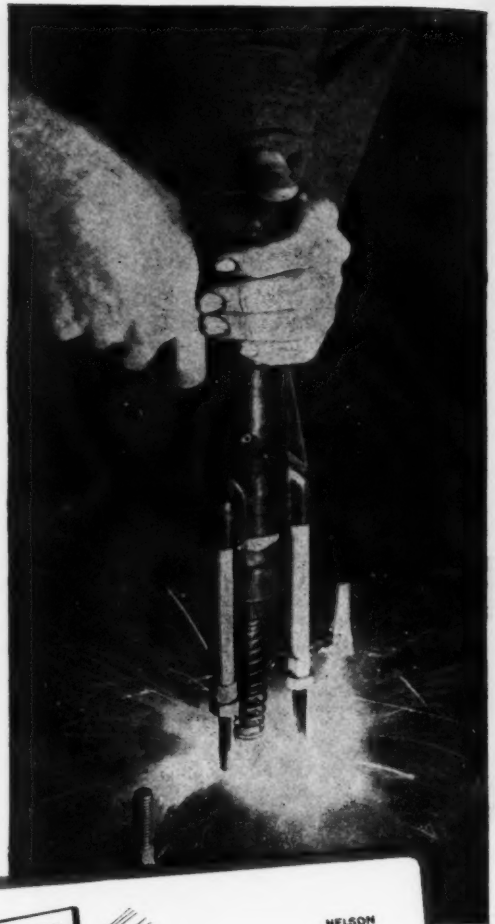


How Nelson Automatic Stud Welding saves time and material—

Here is a complete fusion weld that is obtained in less than $\frac{1}{2}$ second! Yet the resulting stud weld is stronger than the strength of the stud. By this welding method precision work is obtained economically and close tolerances are held.

Below is a typical example of how Nelson Stud Welding is helping one manufacturer save time and material. Consistent results like this, *automatically* produced, can be obtained wherever studs can be end-welded to metal surfaces.

The equipment for Nelson Stud Welding is handy to use and completely portable — or may be obtained as a single or multi-gun precision jig for close tolerance production of stud welded parts. It is easily operated by men or women, and no previous welding experience is necessary. Workers are securing 1000 or more studs in eight hours without difficulty.



HOW TO DO IT—

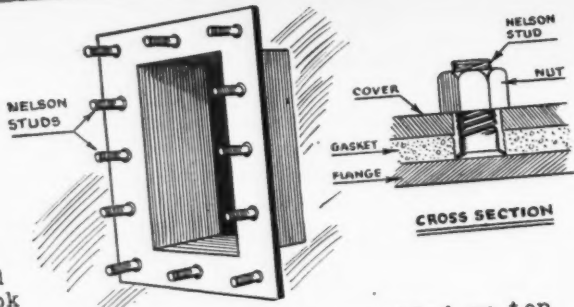
Problem:

SECURING STUDS TO HOLD
INTAKE VENT COVERS ON
INDUSTRIAL FURNACE.

Former Method--Drill hole
through flange, tap hole,
insert bolt, and hand-weld
head of bolt. Process took
too long.

Present Method--Saves more than
40% of the time of former
method. Studs are quickly se-
cured with equal strength and
accuracy.

After layout and center-punch-
ing the studs are welded to the
flange. Gasket and sheet metal



cover are then installed on top
and secured with nuts.

Portable Nelson "gun" well
liked because stud welding can
be done on furnace while assem-
bling.

Do you have a problem like this
stud welding can solve?

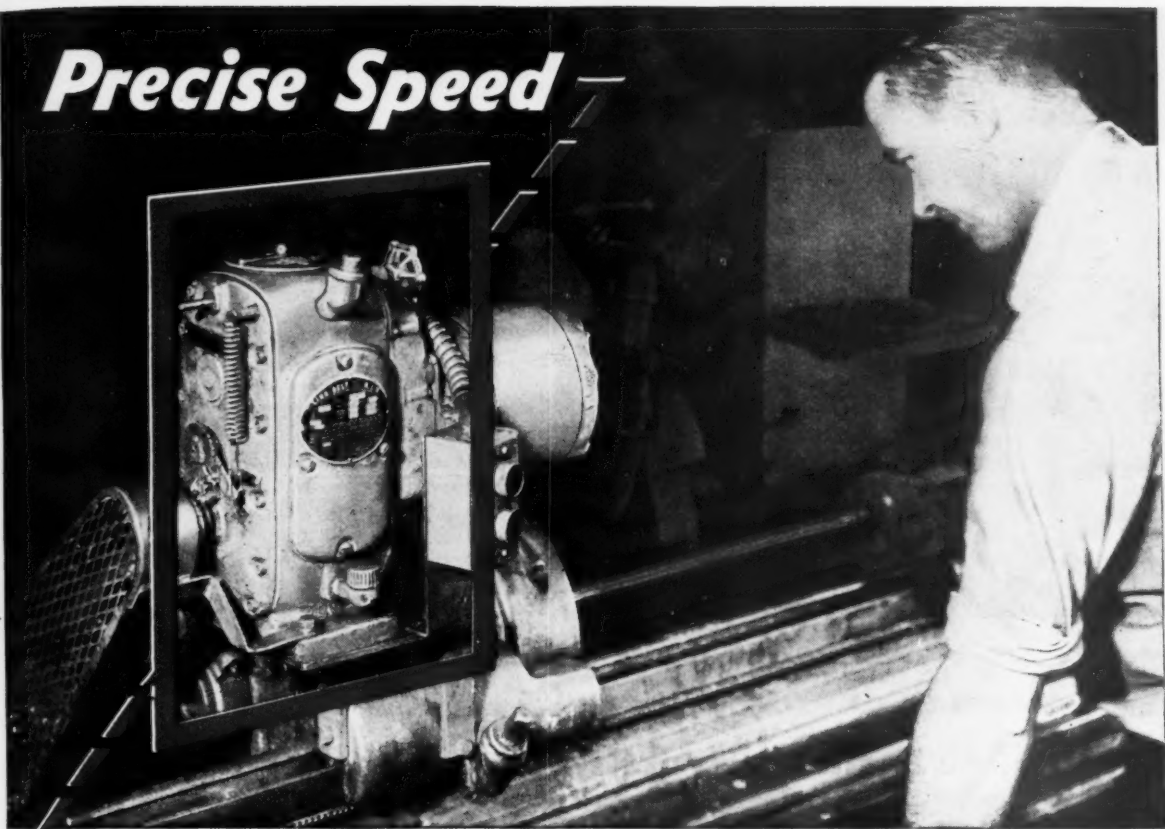
**FOR DETAILS AND
CATALOG WRITE:**

**NELSON SPECIALTY
WELDING EQUIPMENT CORPORATION**

Dept. W-6, 440 Peralta Avenue
San Leandro, California

EASTERN REPRESENTATIVE: Camden Stud Welding Corp., 1416 South Sixth Street, Camden, New Jersey

Precise Speed



--- Means *Better Grinding!*

**FASTER WORK --
FEWER REJECTS!**



Get any speed instantly and maintain it accurately with this Positive Infinitely Variable speed control unit. Cut-away view shows unique chain transmission—tooth-to-tooth contact—no belts—no slip! Get Book 1874.

In a large gasoline engine manufacturing plant, cylindrical grinding machines are called upon to finish grind numerous parts of various diameters. Best results are obtained when the speed of the work bears the ideal relation to the speed of the grinding wheel. With cone pulley drive to the workhead, only approximate speeds could be obtained, so a Link-Belt P. I. V. gear speed variator was installed on the grinding machine. This device permits infinite variation of the working speed, adjustments are made instantly while the machine is

running, and when set, the adjusted speed remains constant, indefinitely.

With speeds regulated to the fraction of a revolution per minute, total operating time is reduced, correct finish is assured, spoilage practically eliminated.

The self-contained, all-metal, P. I. V. Gear is proving indispensable in countless manufacturing processes, where accurate control of speeds affects the final results. Book 1874 will explain how you can use the P. I. V. to advantage in your plant. Send for it, today!

V-BELT DRIVES



FROM STOCK

LINK-BELT COMPANY PACIFIC DIVISION

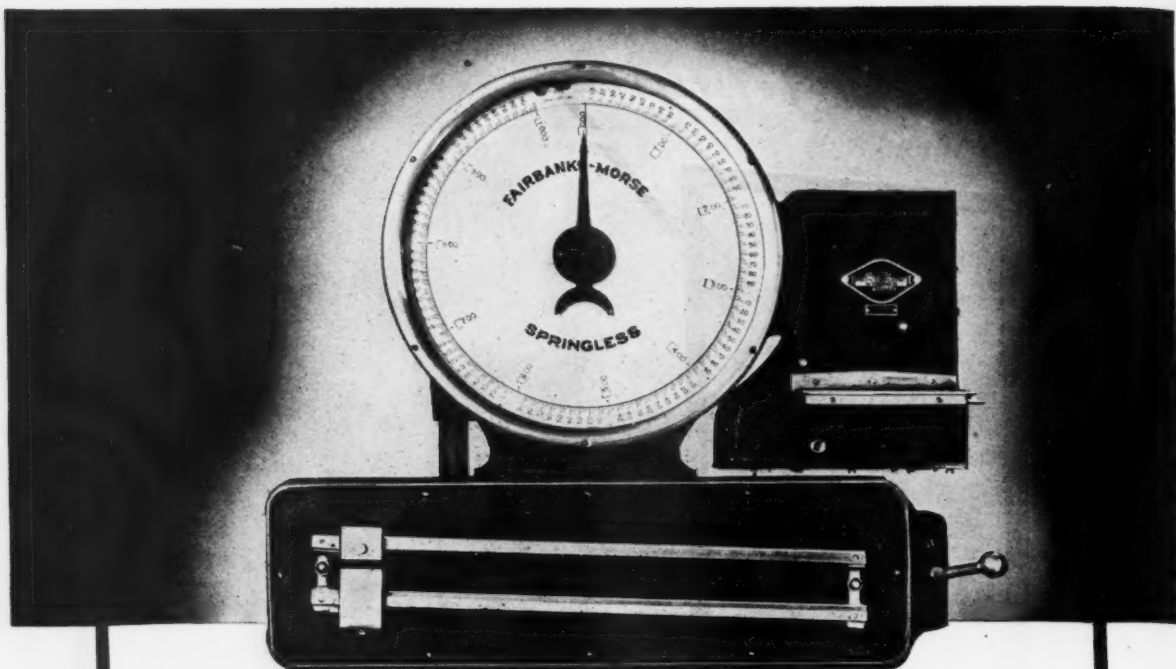
Plants at San Francisco 24, Los Angeles 33, Seattle 4.
Offices and Warehouses: Portland 9, Spokane 8, Oakland 7.

9915-P

LINK-BELT



POSITIVE INFINITELY VARIABLE SPEED CONTROL



A name worth remembering
FAIRBANKS-MORSE

Fairbanks-Morse is the name to think of first when you need scales. For 115 years Fairbanks-Morse Scales have met the varied and increasing needs of business. They have won the confidence of buyers and sellers ... labor and management, because Fairbanks-Morse has always built accurate scales and is constantly working to improve them.

BUY AND HOLD MORE WAR BONDS

SCALES

FAIRBANKS, MORSE & CO.
CHICAGO 5, ILLINOIS

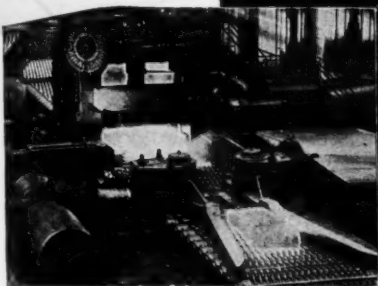


DIESEL LOCOMOTIVES • DIESEL ENGINES

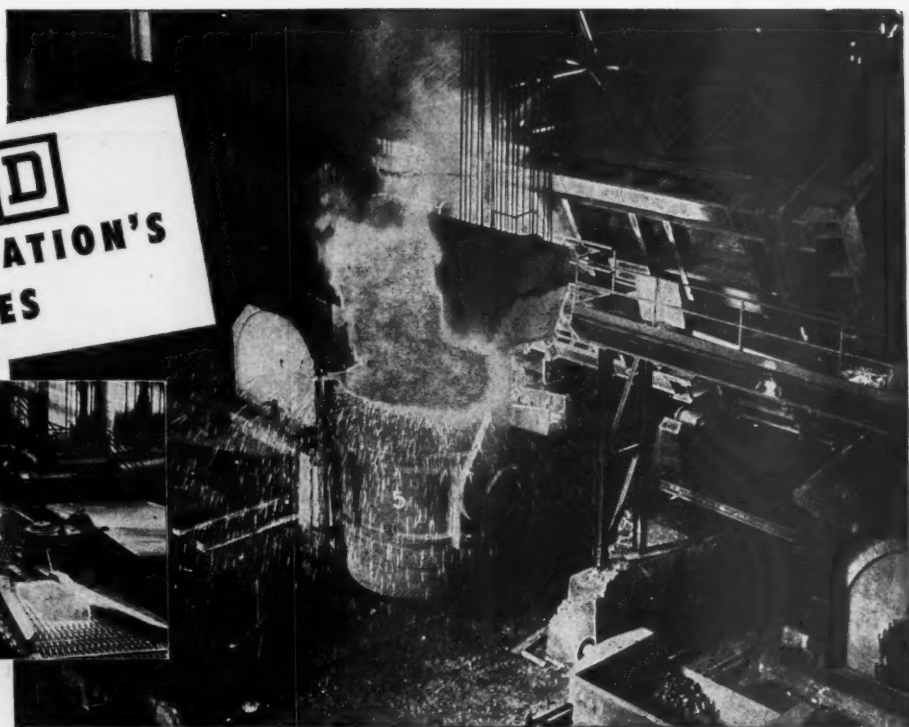
GENERATORS • MOTORS • PUMPS • SCALES

MAGNETOS • STOKERS • RAILROAD MOTOR CARS and STANDPIPES • FARM EQUIPMENT

SQUARE D AND THE NATION'S INDUSTRIES



Kaiser Steel Mills
Fontana, California



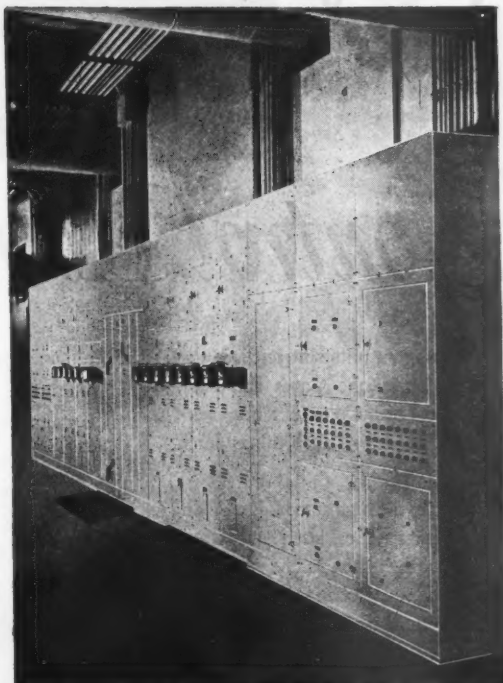
America's Vital Steel Industry looks to SQUARE D for Electrical Control...

Wars are won or lost in direct ratio to the amount of steel produced. That America's great steel industry has been able to break all records in both quantity and quality is due to many factors. One of the most important is the fact that Square D Electrical Equipment has accounted for perfect operational efficiency in avoiding costly shut-downs and keeping the ingots rolling out in a steady flow.

In all of our great steel producing centers, Square D Equipment is doing a "bang-up" job which makes it the favorite of steel and electrical engineers the nation over.

The success of Square D Electrical Control Equipment is built upon four basic principles: *Precision workmanship; correct design; sound engineering and trouble-free operation.*

The name, Square D, has become the working symbol for perfection in electrical control throughout our national industrial life.



Typical installation of Square D Switch Board in the Kaiser Steel Mills, Fontana, California.

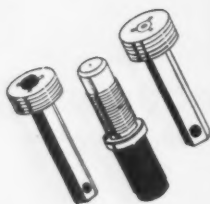
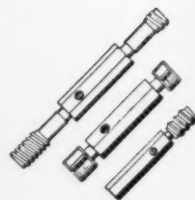


SQUARE D COMPANY

LOS ANGELES 21

SAN FRANCISCO 3 • SEATTLE 1 • DENVER 4 • DETROIT 11 • MILWAUKEE 2

Electronics Help



Control Kobe Gage Quality

As a gage user, your prime interest is in the finished product. Kobe Gages are today serving in some of the most exacting operations of the war effort. Such things don't "just happen."

Contributing to the high standards of quality characterizing Kobe Master and Reference Gages are the materials, the workmanship and precise engineering which go into their construction. Nowhere will you find

better trained personnel or more modern manufacturing and checking equipment than is maintained in Kobe plants.

Kobe's motto has always been "Not how much, but how well." That's why Kobe Gages are known as a standard of quality wherever precision checks are required. That's why you will find Kobe Master and Reference Gages—in war plants, with the

armed forces and generally wherever high gage quality is required.

Kobe's care in manufacture, selection of materials and their engineering of gages is directed today along the lines of wartime use. From this experience will come obvious benefits to be passed on to peacetime industries. That's why when Kobe is again in a position to manufacture gages for general industry you will want to think of KOBE.



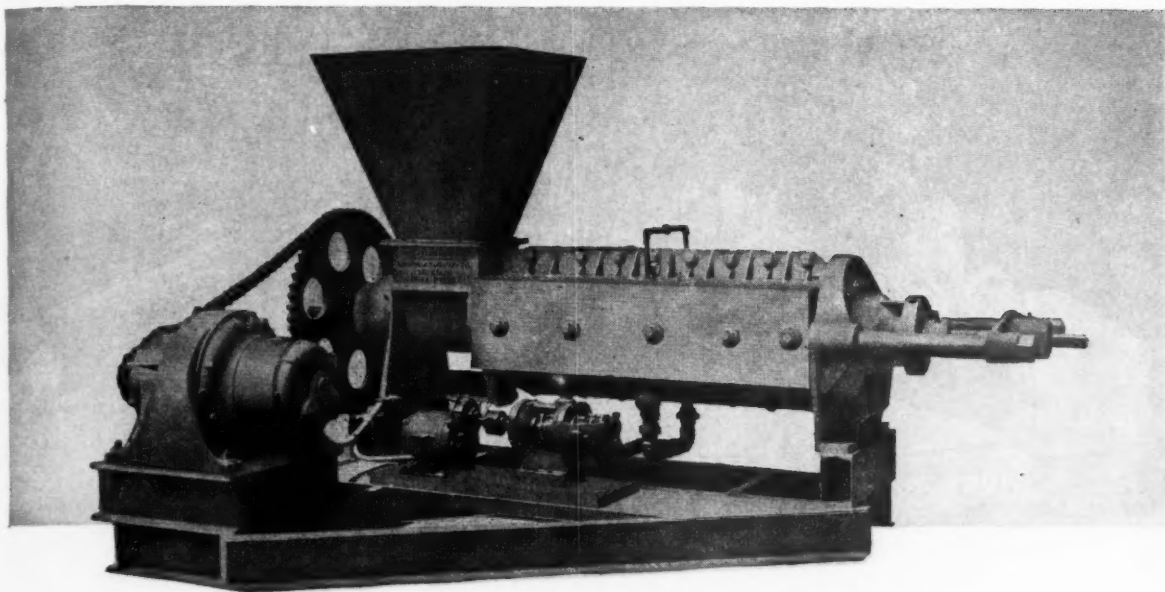
*Master and
Reference*

GAGES

KOBE, INCORPORATED
3040 East Slauson Avenue • Huntington Park, California

AN IMPORTANT ANNOUNCEMENT

to all industries using machinery for extraction of fish oils, juices and moisture...



Money-saving... more efficient... **NEW...**

The ENTERPRISE Vacuum Screw Press

The Enterprise Vacuum Screw Press is new... different from any other mechanical means of extracting fish oils, juices and moisture. This improved-design press is exactly what its name implies... a vacuum screw press... utilizing for the first time, both screw action and vacuum suction pressure to permit greater extraction of fish oils and juices.

● **REMOVES MORE MOISTURE**—The Enterprise Vacuum Screw Press removes more oils and juices than conventional mechanical presses. As a result, the press cake has a far lower moisture content... requires less heat for drying... lowers your fuel bills.

● **LABOR-*SAVING***—The continuous screw action permits uninterrupted operation... saves time, labor, money. The Enterprise Vacuum Screw Press is lower in cost to buy and operate than conventional hydraulic presses.

WRITE TODAY FOR INFORMATION

The Enterprise Vacuum Screw Press has been developed in keeping with Enterprise policy of constantly improving, constantly providing process industries with better, more efficient equipment. For detailed information on the new Vacuum Screw Press, write Dept. S. P.-1.

PROCESS MACHINERY DIVISION OF ENTERPRISE ENGINE & FOUNDRY CO.

18th & Florida Streets San Francisco, California

Enterprise Process Machinery

SCREW COOKERS • DRYERS • VERTICAL MILLS

ES-4777-21

August, 1945—WESTERN INDUSTRY



IT'S PART OF YOUR PICTURE

HANDLING, occurring more frequently than any other phase of the production cycle, can account for 22% of the total production costs. You can't afford to underestimate the importance of materials handling in your operation.

Whatever your particular handling problems may be, the authorized Towmotor distributor in your area can help you solve them. Take advantage of the experience and knowledge he can offer you.



IRVING G. KING & CO.

821 Mateo Street
Los Angeles 21, California
Phone: TUcker 3176

ALBERT J. LILYGREN

558 First Avenue, S.
Seattle 4, Washington
Phone: Elliot 5275

Pacific Industrial Products Co.

801 Jefferson Street
Oakland 7, California
Phone: GLencourt 5921

ALBERT J. LILYGREN

Security Bldg., 131 S.W. 4th St.
Portland, Oregon
Phone: ATwater 9211

TOWMOTOR

THE ONE-MAN GANG

UNUSUAL STEEL JOBS HANDLED QUICKLY, CAPABLY

Here are examples of the unusual and specialized steel jobs that Consolidated Steel Corporation is prepared to help plan and fabricate for you *now*.



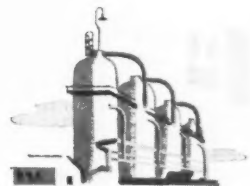
BRIDGES



INDUSTRIAL BUILDINGS



PIPE LINES



PETROLEUM EQUIPMENT



LARGE VALVES



TRANSMISSION TOWERS



TANKS

For precision steel fabrication—handled quickly and capably—call in Consolidated Steel Corporation, 5700 South Eastern Avenue, Los Angeles 22, Calif. Other plants at Long Beach, Wilmington, Newport Beach, Calif.; Orange, Texas.

Largest Independent in the West

Consolidated Steel

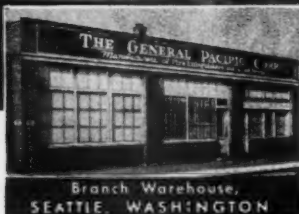
FABRICATORS
ENGINEERS
CRAFTSMEN

-Here's Why

GENERAL PACIFIC Gives You BETTER Fire Protection!



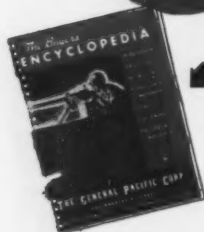
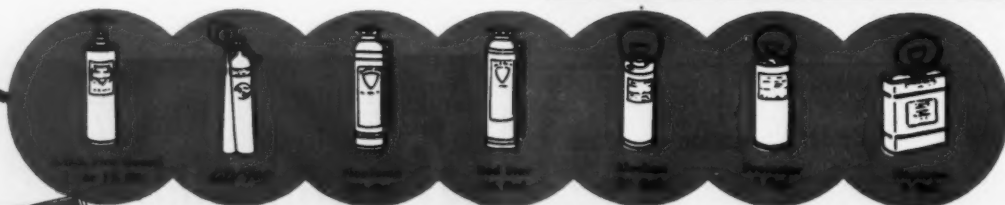
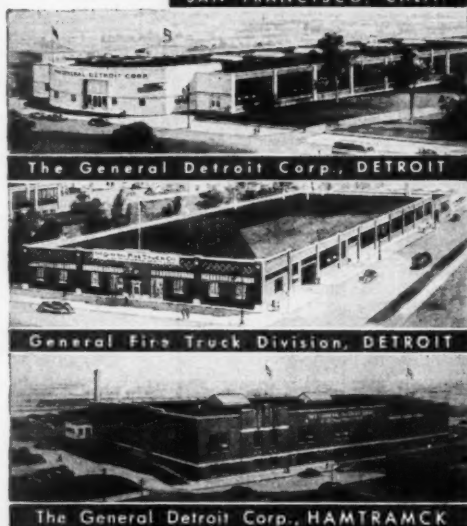
Main Offices and Factories, LOS ANGELES



1st **MADE IN THE WEST**
...a complete line of fire protection equipment that is mass-produced in a modern, complete plant in Los Angeles. As a result, your General Pacific agent can give you better and faster service, because you're closer and he's closer to manufacturing headquarters.

2nd **MADE FOR THE WEST...**the type of safety equipment and fire fighting equipment that meets the particular requirements of Westerners and is approved and labeled by the Underwriters' Laboratories and Factory Mutuals.

3rd **BACKED BY 44 YEARS OF FIRE PROTECTIONEERING**
... The General Detroit Corp. is our Eastern affiliate. Its extensive facilities, skill, and engineering research also contribute to the service which The General Pacific Corp. gives you. "If it's General, it's dependable!"



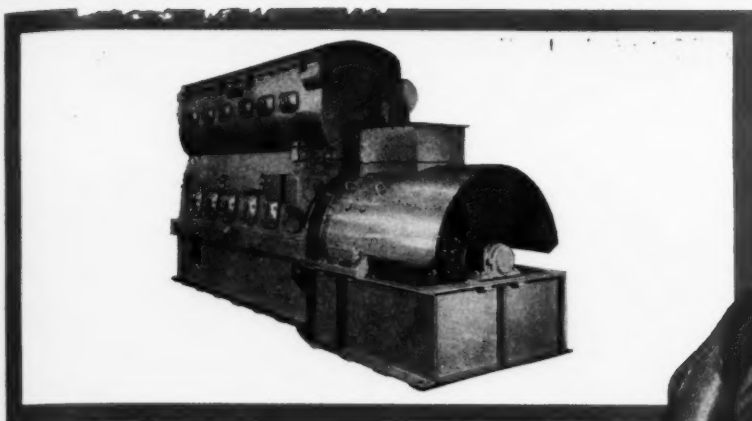
WRITE TODAY FOR NEW CATALOG "*The Buyer's Encyclopedia*"

THE GENERAL PACIFIC CORP.

(Eastern Affiliate: The General Detroit Corp.)

General Offices and Factory: 1800 SOUTH HOOPER AVENUE, LOS ANGELES 21
• SAN FRANCISCO • PORTLAND • SEATTLE •





How long since you've had to sharpen your pencil?

Every realistic business man knows that "some day" costs will again loom large in holding customers against hungry competition. *¶ That day may be closer than you think... now is the time to sharpen that pencil... Start figuring your power cost along with your other costs... Ask yourself, "Can I rely upon an obsolete pre-war power plant to do post-war manufacturing?" ¶ Our engineers will gladly work with you or your engineers in preparing a preliminary survey and estimate.*

Modern Power Units by Hendy Can Help You Reduce Costs

Hendy has made important strides during the war in the design and manufacture of new medium- and heavy-duty Diesels, Diesel-electric sets, steam turbines and turbo-generators for use in more than fifty different industries. Write now for literature describing these new products.

Power by
HENDY

Engineered to suit your needs

EST. 1856 • JOSHUA HENDY IRON WORKS • SUNNYVALE, CALIF.

TURBO-GENERATORS



REDUCTION GEARS



STEAM TURBINES



DIESEL ENGINES



Branch Offices: BOSTON • BUFFALO • CHICAGO • CINCINNATI • CLEVELAND • DETROIT • LOS ANGELES • NEW YORK • PHILADELPHIA • PITTSBURGH • SAN FRANCISCO • WASHINGTON



Magnesium makes heavyweights sew, sew much lighter

Grandmother had a sewing room, complete with north light, table, thread cabinet, and a foot-operated sewing machine parked permanently by the window. Today many of us, in our new small houses and in city apartments, have a living-dining-study-sewing room combined into one. The sewing machine has become an electric portable parked in a closet, and it is Papa's job to drag it out and hoist it to the table before he leaves for work.

Progress? Yes! But that machine should keep up with the times, now that magnesium, the light, strong, safe metal, is available without Government restriction, subject only to the prior claims of war production. Magnesium—the ultra-light metal, the one that weighs less than one-fourth as much as iron, that transmits vibration less, changes man's work into child's play. Magnesium, the modern metal, reduces the toll of dead weight upon muscular and mechanical power in homes and factories.

Would you like a portable sewing machine so light you can carry it anywhere? Or a vacuum cleaner, a washing machine, a wheelbarrow, a lawn mower? Then ask your dealer, and he will pass along the news of your demand. Revere does not make finished products of magnesium. But we do operate one of the world's largest magnesium mills, turning out large quantities of plate, sheet, rod, bar, tube, forgings and extrusions, to be used in the manufacture of featherweights that used to be heavyweights.

To manufacturers we offer our unstinted cooperation. We have learned a great deal about the complete safety, the workability, the wonderful adaptability of the lightest, most modern and most available of today's commercial metals. Write for complimentary copy of new booklet, "Magnesium, the Light-Weight Metal for a Multitude of Uses." Write Revere Copper and Brass Incorporated, Executive Offices, 230 Park Avenue, New York 17, New York.

Pacific Coast District Sales Offices in San Francisco, Seattle, Los Angeles

REVERE COPPER AND BRASS INCORPORATED

FOUNDED BY PAUL REVERE IN 1801

FABRICATORS OF COPPER, BRASS, MAGNESIUM, ALUMINUM, BRONZE AND STEEL

How much *Air* to put 70° on wheels?

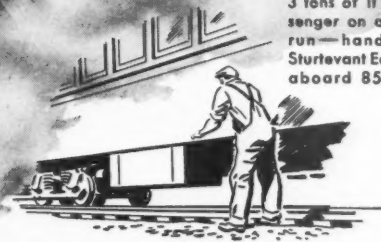
Ninety in the shade in the hot landscape as it rolls by. But you relax in cool, refreshing comfort—if you're lucky enough to get space on an air conditioned car. And despite the threefold increase in wartime travel (which American Railroads have handled brilliantly) air conditioned cars have been kept in service—some 8500 of them. Without new equipment or new refrigerant, we know this was no easy job.

Here's why: Air conditioning equipment must be compact and light—every pound you save conserves coal in the tender. Yet, on a trip from New York to Chicago, the units in a single car are called on to handle almost 590,000 *pounds of air*. On the road for months on end, this Sturtevant equipment *stands up* because it was built right. Built the way railroads wanted it—since we pioneered the first system "to put 70° on wheels."

Equally important, Sturtevant pitched in with a program of maintenance helps, inspection schedules and service tags—that help the railroads, struggling with untrained men, to keep existing equipment on the job, passengers comfortable.



Clean, cool air rides the rails—more than 3 tons of it per passenger on a 16 hour run—handled by Sturtevant Equipment aboard 8500 cars.



Sturtevant
Puts Air to Work

Air Conditioning as a premium commodity to attract customers — or an industrial tool to step up production—will be a "must" for many an enterprise under the lash of post-war competition. Here, and wherever "Air at Work" lends a hand, Sturtevant Equipment properly engineered to the task is your assurance of utmost economy, both in initial outlay and through the years.

THE B. F. STURTEVANT COMPANY

Plant at Berkeley, California

SAN FRANCISCO • LOS ANGELES • SEATTLE • PORTLAND • SPOKANE

Our Plant can be Your Factory!

You may not have the facilities to make parts or complete products to market under your own brand. In our modern 110,000 square foot plant, we have the men and equipment to manufacture for you on a contract basis. Here are tool and die shops, punch and forming presses up to 400 tons, automatic screw machines, turret lathes, drill presses, milling machines, finishing and assembly departments. Why not put our skill and experience to work on your production problems? Write our Product Research Department for prompt, accurate estimates on parts or products engineered to your specifications.

OUR 23-YEAR RECORD:

GROWTH: expanded 4 times.

ENGINEERING AND INVENTIVE PROGRESS:

devised time and money-saving short-cuts in tool and production methods; developed improvements in cowl ventilator fabrication for shipbuilding industry.

OUTPUT: delivered over six million screw machine and stamped parts monthly to prewar aviation industry.

WAR PRODUCTION: more than 75% of all military aircraft equipped with fittings from our plant.

RECOGNITION: winner of 4 Army-Navy 'E' Awards.

Now manufacturing for all industry:
Cable Terminals • Junction Boxes • Rod Ends • Conduit Fittings



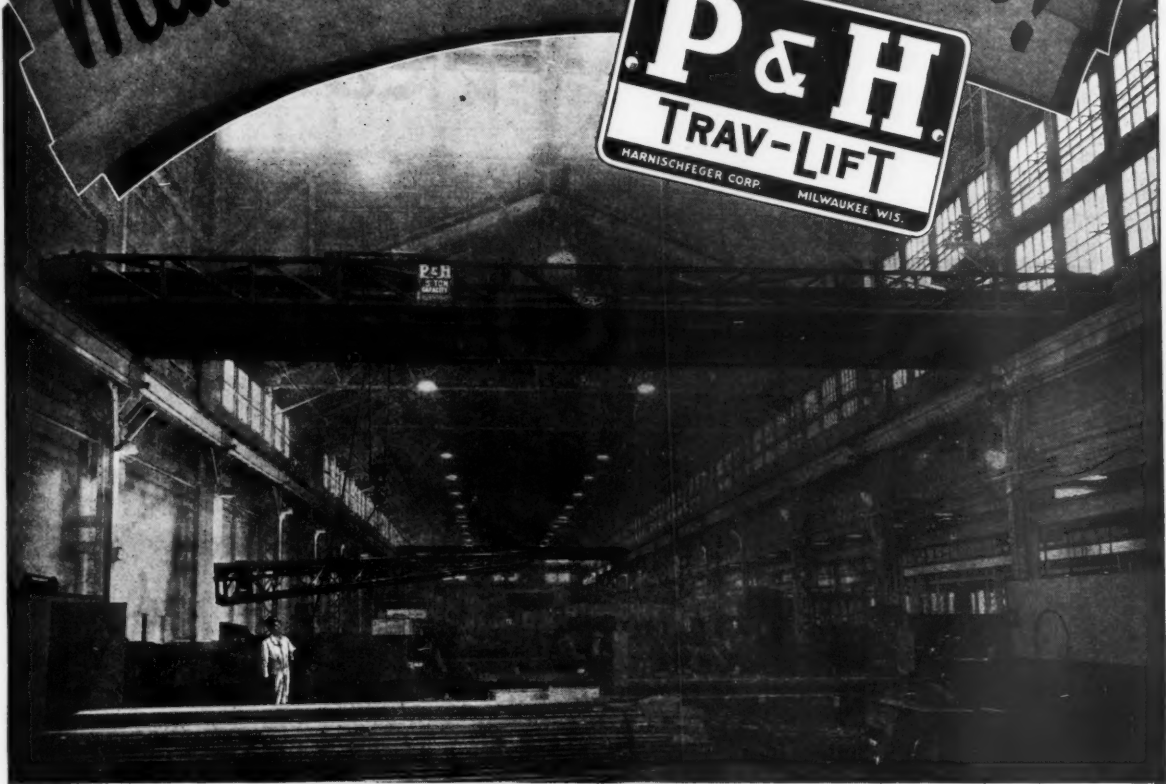
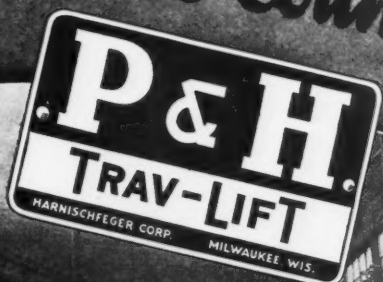
ESTABLISHED
1922

POULSEN & NARDON, INC.



Main Plant: 2665 Leonis Boulevard,
Los Angeles 11, Calif., LAfayette 0961
Eastern Office: 345 Madison Avenue,
New York 17, N.Y., LExington 2-1170

Make Every Move Count!



Every time you handle your product, you add to its finished cost. So make every move count! Beware the sluggishness that comes with human fatigue. See that work for skilled hands is delivered promptly . . . and promptly removed. Avoid unnecessary rehandling.

THE EASY WAY: "THRU-THE-AIR"

The easy low cost way is "thru-the-air." Whatever your loads, up to 15 tons, there's a P&H Trav-Lift to move them direct . . . from any point to another within the area served . . . and all with the pressing of buttons! One operator does the job, without delay, without effort—and without rehandling!

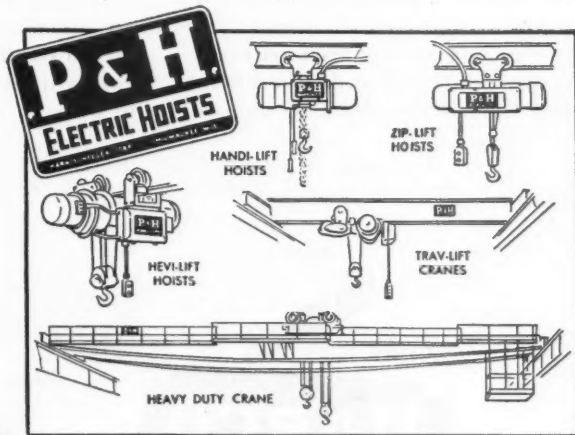
Electrically-operated Trav-Lifts are available with either floor or cage control. You may choose from a wide range of types and capacities. Call your P&H Hoist Engineer . . . or write us for literature . . . and learn how Trav-Lifts can help you "make every move count!"

HARNISCHFEGER CORPORATION

HOISTS • WELDING ELECTRODES • MOTORS • EXCAVATORS • ELECTRIC CRANES • ARC WELDERS

ELECTRIC HOISTS

4604 W. National Avenue
Milwaukee 14, Wis.





● Hold on a second! Don't get the air blue with *idle curses*—find out what's to blame for errors. Your employees? Probably not... they don't like errors any more than you do. Well then—how come errors in the first place?

Most likely, your error trouble is caused by the fact that too many people have to write and re-write the same information—and every time a form must be recopied, there's a chance for mistakes. Or, perhaps, errors are due to poor copy reproduction—fuzzed carbon copies that are unreadable, defeat legibility. If so, then here is your solution—Uarco forms. Forms with

carbons that assure clean detailed copies—forms that allow one person to type or write enough copies at one time for all departments.


Today see what Uarco has to show you. For Uarco has made a science of creating better forms... forms scientifically designed for individual businesses, that pay off in savings of time and money as well as lessening the possibility of errors.

Spend a half hour with the Uarco representative. You will be amazed at the substantial cut in errors the *right form* will bring you. Call him today—or write.




For instance, this is the Uarco Speed-O-Form... one of many time-saving forms. In five seconds, any standard typewriter can become a continuous forms biller. Eliminates carbon stuffing, paper alignment and other such time-taking routine jobs. Two to six copies are made at once, and forms in back of the machine continuously feed the typewriter as typist types. Write for full information.

UNITED AUTOGRAPHIC REGISTER COMPANY
Chicago, Cleveland, Oakland • Offices in All Principal Cities



AUTOGRAPHIC REGISTERS



SINGLE SET
FORMS



CONTINUOUS-STRIP FORMS FOR
HANDWRITTEN TYPEWRITTEN • BUSINESS MACHINE RECORDS





BETTER BUSINESS FORMS

NOW - A COMPLETE LINE OF STAINLESS STEEL

Jorgensen now represents America's leading stainless steel producers.

Warehouse stocks are rapidly being expanded to include a complete line.

In the meantime Jorgensen can procure for you direct from the mill any item that is not yet available in warehouse stock.

For *all* your stainless steel requirements - CALL JORGENSEN FIRST!



SHEETS



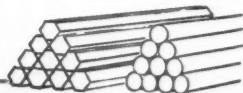
STRIP



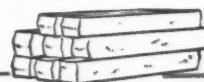
PLATES



BARS



BILLETS



WIRE



EARLE M. JORGENSEN CO. STEEL

LOS ANGELES

10510 S. Alameda
Jefferson 9121

SAN FRANCISCO

Ask Operator for
Enterprise 10942

OAKLAND

1657 22nd St.
Hlgate 2030

HOUSTON

5311 Clinton Dr.
Charter 4-1761

**If You Have Steam
Cylinder Equipment...
You need**

CYCOL

STEAM CYLINDER OILS

Whatever the requirement for a steam cylinder oil, it is more than adequately answered in the complete Cycol line. Each of the thirteen types is outstanding in its performance—whatever the type of steam, the disposition of the exhaust steam, and the temperatures involved—for each is formulated to its own particular job. Pure Pennsylvania cylinder stock is used exclusively.

PENNSYLVANIA STEAM CYLINDER OILS (COMPOUNDED)

Cycol Wet Steam Cylinder Oil
Cycol Wet Steam Cylinder Oil "D"
Cycol Special Locomotive Valve Oil
Cycol Locomotive Valve Oil
Cycol Saturated Steam Cylinder Oil
Cycol 590 Compound Cylinder Oil
Cycol 700 Compound Cylinder Oil
Cycol 700 Valve Oil
Cycol 700 Valve Oil "D"

PENNSYLVANIA STEAM CYLINDER OILS (UNCOMPOUNDED)

Cycol Superheat Steam Cylinder Oil
Cycol Mineral Steam Cylinder Oil
Cycol 700 Mineral Cylinder Oil
Cycol 590 Mineral Cylinder Oil

Consult your nearby Associated Lubrication Engineer for recommendations to fit your particular needs—or write to:

TIDE WATER ASSOCIATED OIL COMPANY
79 New Montgomery Street • San Francisco 5

**LET'S GET
ASSOCIATED**



★ VICTORY ★ ★ ★ ★ ★

still depends on you

SPECIALIZED LUBRICANTS FOR
EVERY INDUSTRIAL PURPOSE

Wood is vital for war—prevent forest fires

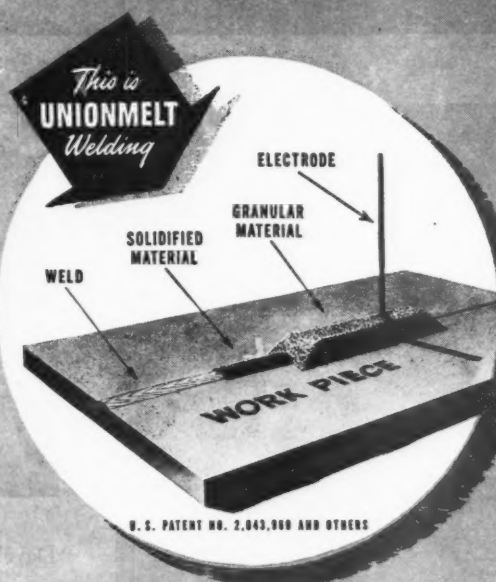
ANYONE MAY OBTAIN A LICENSE TO USE

UNIONMELT Welding

Licenses may be obtained from:
THE LINDE AIR PRODUCTS COMPANY

There are hundreds of licensees
AMONG WHOM ARE:

**Automobile Manufacturers
Wheel Manufacturers
Aircraft Manufacturers
Shipbuilders and Ship Repairers
Railroad Equipment Builders
Chain Manufacturers
Manufacturers of Pressure Vessels
Manufacturers of Pipe and Tubes
Structural Steel Fabricators
Machinery Manufacturers
Household Equipment Manufacturers**

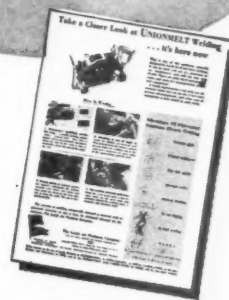


*A process of welding electrically
beneath a mineral melt*

... and successful producers of other things as widely varied as airplane propellers, tanks, gun mounts, blowers, chemical plant equipment, conveyor screws, and sheet metal parts.

UNIONMELT welding is electric welding done as diagrammed above. It makes top quality welds at speeds that are greater than with any other similarly applicable process.

Anyone who wishes to use this patented invention may do so under our standard license agreement. License fees are low and based upon extent of use. Complete engineering assistance is available to licensees.



For additional information send for "Report No. 6 on the Use of Linde Methods in Mass Production" or ask a Linde representative to help you determine where you can use the UNIONMELT process advantageously.



MARITIME "M" AWARD
FOR OUTSTANDING
PRODUCTION ACHIEVEMENT

THE LINDE AIR PRODUCTS COMPANY

Unit of Union Carbide and Carbon Corporation

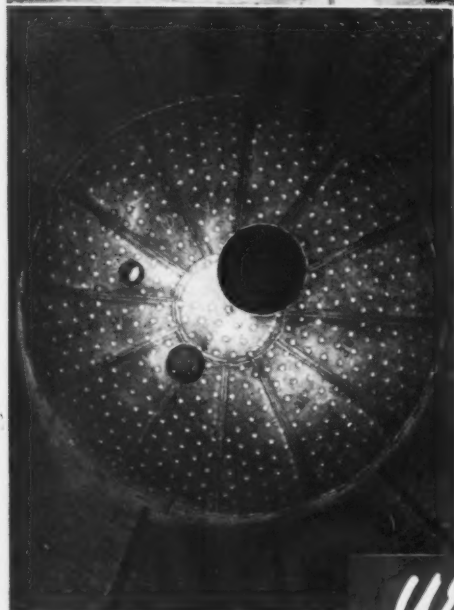
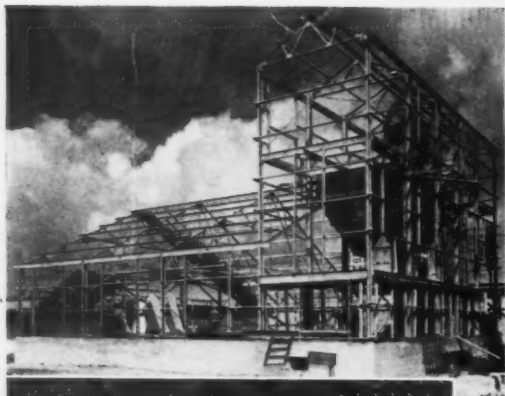
30 E. 42nd St., New York 17, N. Y.  Offices in Other Principal Cities

In Canada: Dominion Oxygen Company, Limited, Toronto

The word "Unionmelt" is a registered trade-mark of The Linde Air Products Company

★ BUY UNITED STATES WAR BONDS AND STAMPS ★

STEEL CONSTRUCTION MEN *who know how!*



Developments by steel construction men today are numerous and varied. Tomorrow's demands call for precision and exactness. Pipe will be bent into intricate shapes, while sheets will be stamped or formed, punched and welded to special contours.

Western Pipe & Steel Company's personnel over the past forty years has accumulated millions of hours of steel construction knowledge and 'know-how'. Whether it be of a storage tank, smoke stack, pressure vessel, water, oil or gas pipe line, Western Pipe & Steel Company has the answer to your steel construction problems.

Our staff will be glad to make recommendations on the application of steel to your needs. A letter or call is all that is necessary.

WESTERN BUILT PRODUCTS INCLUDE:

Tanks	Linings, Corrosion Resisting
Bolted	Pipe
Galvanized	Gas, Water & Oil
Riveted	Towers
Welded	Bubble
Towers	Evaporator
Gas Cleaners	Fractionating
Gas Holders	Vessels
Gas Separators	Pressure
Heat Exchangers	Walkways
	Structural

Western PIPE & STEEL COMPANY OF CALIFORNIA

Fabricators and Erectors



3717 Santa Fe Avenue
Box 2015, Terminal Annex
Los Angeles 24, California

200 Bush Street
San Francisco 4
California

Plants and Offices: FRESNO, BAKERSFIELD,
TAFT, CALIFORNIA AND PHOENIX, ARIZONA



***A Chin that
can sock back***

You can't take potshots at a Flying Fortress from the front without retribution. Fortresses have chins that can sock back with double dynamite.

Hit and run tactics won't work either. That Bendix turret with its two 50 cal. guns can follow enemy aircraft up and down, right and left, fast or slow, with ease and accuracy.

One reason is that Cone-Drive gears are used for elevating and training* the guns in this—as in many other Bendix turrets.

According to Bendix officials they are "an unseen but extremely vital part of this important equipment."

What is more, Cone-Drive gearing is saving vital space and weight in aircraft. Cone-Drives weigh only 1/3 as much, require only 2/3 the room of conventional gearing of the same load capacity.

*Azimuth Cone-Drive gears are on 6 inch C. D. and have a 50 to 1 reduction. Elevating Cone-Drives have a 42 to 1 ratio and a 3 inch C. D.

If you do not already have the story of what Cone-Drives can do for your product—for war today, for peace tomorrow—write for manuals:

CW-41B for Executives • CW-41A for Design Engineers
CW-44 "War—A Post-Graduate Course for Gears"



CONE-DRIVE DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd., Detroit 12, U. S. A.



40,000 Pontoons for Pacific Warfare Roll to Naval Base on Fruehauf Trailers

FROM peacetime manufacturing of pre-fabricated houses, Wailes-Bageman Company converted all of their facilities to the production of steel pontoons for the U.S. Navy. Since the beginning of the War they have manufactured about 40,000 of these units which have been used for everything from bridge building to submarine storage of gasoline.

These 2700 pound tanks are manufactured in Los Angeles and hauled to the U.S. Navy Base at Port Hueneme, 60 miles away. Their fleet of Fruehauf Flatbed Trailers covers a total of 7000 miles per month.

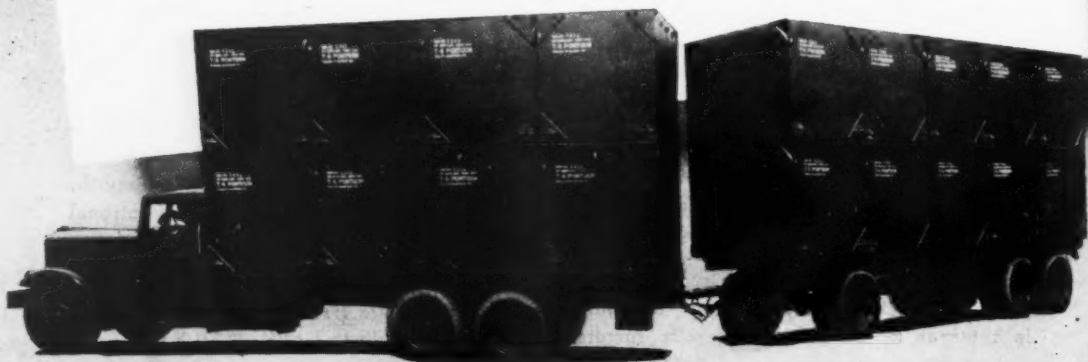
Cost-minded executives in over 100 different industries have found Fruehauf Trailers a means of reducing their hauling costs.

Consult your nearest Fruehauf Branch on that problem. They will gladly give you the benefit of their wide experience in helping others.

World's Largest Builders of Truck Trailers
FRUEHAUF TRAILER COMPANY
Western Manufacturing Plant—Los Angeles

Sales and Service Branches:

Los Angeles	Fresno	Portland
San Diego	Phoenix	Spokane
San Francisco	Seattle	Denver
Salt Lake City		El Paso



FRUEHAUF *Trailers*

Motor Transport Will Get Your Job Done!

If you aren't using truck transportation, have you ever challenged your shipping costs and over-all efficiency with the job that professional haulers can do for you? Get all the facts!

Spotlight

on the NEWS

WESTERN INDUSTRY
FOR AUGUST, 1945

VOLUME X

NUMBER 8

Battle of Steel

By the time this issue of *Western Industry* is in the mails, the bids for Geneva—U. S. Steel, Kaiser, Colorado Fuel & Iron—will all be in the hands of RFC, (p. 46) and the big argument will start.

Sidelights on Lt. Col. Edward Heller of the Surplus Property Board, which our Washington editor (page 52) says was "conceived in compromise and born in politics," and other figures in the battle, should give one a different perspective of what may well be the domestic struggle of the century.

Revolution In Drawing

Evil as war is, good does come out of it as shown in the story of isogonic drafting (page 40-41). Developed by a Westerner, and proved by its highly successful use in war plants, this new technique is assured of being one of the great tools of industry in the immediate future. Though it may seem to verge on the fourth dimension, it is actually quite simple.

Good Labor Relations

Firms that enjoy good labor relations inevitably miss out on a considerable amount of publicity. Naturally they are fortunate that they do. In this issue five firms, members of the California Metals Trade Association, reveal (page 50) how they get and keep harmonious labor relations, thus avoiding publicity of a kind that would do them, and any one, no good.

Ship Repair Outlook

Ship repair situation is not quite as acute as it was some weeks back, because the battle damage peak has eased off a bit. Nevertheless, it is still something that is out of balance a good share of the time, due to the complex factors involved. Several of our Western senators and congressmen agree with *Western Industry* (p. 42) that

there should be an overall authority to coordinate everything, an authority going beyond what the Greenslade committee is doing.

A Harvest Of Ideas

An innovation in industrial relations work has been undertaken by the Douglas Fir Plywood Association, namely, to develop a method of channeling employees' ideas for improving machinery up to the management of the various factories (page 72). They have appointed a veteran union man, in whom employees generally have confidence, to be a field representative of the employers, encouraging employees to submit their ideas, and protecting them on patent and royalty matters.

Ordnance Keeps Up

While shipbuilding and aircraft production continue on a decline, ordnance contracts in the West remain at or near their former high level. In fact transfers of plant for shell contracts are actually taking place from the East just in case the need should arise for additional production due to the Mikado's troops going on a last magnificent rampage. In view of this possibility some months should elapse before any substantial lessening of ordnance contracts takes place.

Contract Terminations

War contractors who tend to break out in a sweat when they think about the paper work involved in contract termination ought to find considerable relief in what Lt. Comdr. Edward J. Demson has to say (page 44). And for those who feel that the utterances of the Internal Revenue Department contain an unconscionable amount of double talk, the remarks of James G. Smyth, Collector of Internal Revenue for the First California District, will possess a welcome amount of clarity on the complex subject of income tax deductions for war contractors planning conversion.

Winged Asparagus

The flight of tons of asparagus and other produce by fast air transport from Salinas to New York to tickle the jaded palates of Stork Club habitués (page 48) gives point to the quotation from Lord Tennyson which Henry J. Kaiser tossed off the other day. Kaiser quoted at a Commercial Club luncheon in San Francisco "Saw the Heavens filled with Commerce—dropping down with costly bales." Apposite except for the cost, which should lessen rapidly as this new venture in air cargo delivery really gets under way and becomes more general throughout the West.

Light on Light Metals

"Imagineering" is a word coined by Aluminum Company of America to indicate the almost unlimited possibilities for use of aluminum. Yet not only Alcoa, but also Reynolds Metals and Columbia Metals are doing a lot of "imagineering" about the future of aluminum and evidently about the use to which the government-owned plants in the Pacific Northwest can be put. The fact that these plants will be in demand was the most illuminating news coming out of the light metals conference of the Western States Council at Seattle in June (pages 35-39), although the mass of economic and technical information presented regarding both aluminum and magnesium was of noteworthy value also.

Don't Sell Aluminum Short

Aluminum hot cake griddles manufactured in Portland are selling "like hot cakes" clear back to New Jersey (p. 77). Rather a contradiction in assertions that the West can't compete with the East. Portland has 25 aluminum fabricators making castings, die castings, cooking utensils, irrigation pipe, frozen food lockers, light fixtures, heat control systems, wind velocity equipment, trucks and trailer bodies, life rafts, pontoons, aircraft parts. Not such a bad showing.



STANDARD ENGINEERS NOTEBOOK

VOL. 2-W No. 8

Stable, all-purpose oils stop wear on external bearings

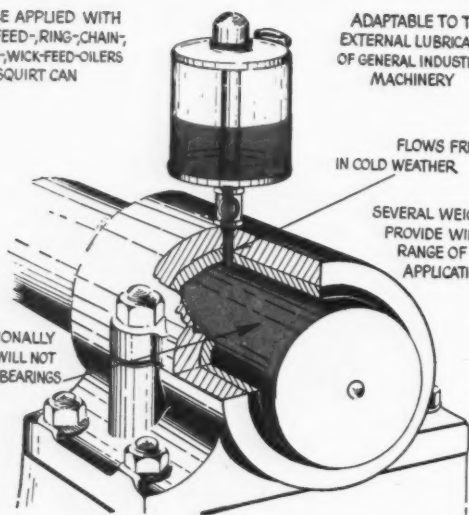
MAY BE APPLIED WITH
DROP-FEED, RING-CHAIN;
BOTTLE, WICK-FEED-OILERS
OR BY SQUIRT CAN

ADAPTABLE TO THE
EXTERNAL LUBRICATION
OF GENERAL INDUSTRIAL
MACHINERY

FLOWS FREELY
IN COLD WEATHER

SEVERAL WEIGHTS
PROVIDE WIDE
RANGE OF
APPLICATION

EXCEPTIONALLY
STABLE. WILL NOT
GUM ON BEARINGS



Because they are carefully refined for stability, Calol Red Engine Oils are always the same and may be depended upon to give constant, uniform protection to external bearings on all general industrial machinery. With a comparatively low carbon residue and low pour test, they have a wide range of application in all atmospheric temperatures.

They are made in five viscosity grades:

Calol Red Engine Oil—11. An all-purpose grade which can be filtered for re-use. It is used on engine bearings, machinery and shafting.

Calol Red Engine Oil—15. Heavier than Number 11 and used for the same general purposes.

Calol Red Engine Oil—18. Used on slow-speed bearings, air cylinders of blowing engines.

Calol Red Engine Oil—20. A heavy grade for heavy-duty machinery bearings.

Calol Red Engine Oil—25. The heaviest grade, used for the same purposes as Number 20.

Tacky greases seal out dust and water

Where rough, grease-lubricated bearings must operate in severe conditions, Calol Multi-Service Greases are recommended. Black in color, these special base greases are blended into a heavy, rugged oil. The lubricant film they provide stands up under the heaviest shock loads. Because they are extremely adhesive, Calol Multi-Service Greases resist high centrifugal action. They are economical and maintain a seal against water and dirt.

There are seven grades of Calol Multi-Service Grease: Numbers 0 and 1, the softest, are non-fluid at ordinary temperatures. Number 0 is particularly adapted for use in cold weather. Numbers 2 and 3 are slightly heavier in consistency and higher in melting point. Numbers 4, 5 and 6 are very stiff.

In the proper grades, Calol Multi-Service Greases are used on small enclosed gears, on ball and roller mine car wheels, heavy-duty chassis, rough machinery bearings and low-speed journal bearings.

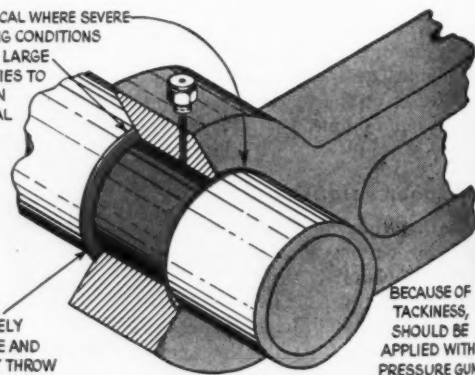
ECONOMICAL WHERE SEVERE
OPERATING CONDITIONS
REQUIRE LARGE
QUANTITIES TO
MAINTAIN
DUST SEAL

EXTREMELY
ADHESIVE AND
WILL NOT THROW
OFF READILY

BECAUSE OF
TACKINESS,
SHOULD BE
APPLIED WITH
PRESSURE GUN

HIGHLY RESISTANT
TO MOISTURE

MAINTAINS RICH OIL FILM THAT RESISTS DISPLACEMENT BY SHOCK LOADS



Standard Fuel and Lubricant Engineers are always at your service. They'll gladly give you expert help — make your maintenance job easier. Call your Standard Representative or write Standard of California, 225 Bush St., San Francisco 20, California.

STANDARD OF CALIFORNIA

WESTERNERS REVIEW OUTLOOK FOR LIGHT METALS INDUSTRY

Seattle Conference Reveals Aluminum Producers Interested in Taking Over the Pacific Northwest's War-created, Government-owned Plants

THIS is hardly the time to sell the aluminum industry of the West short. That much was obvious at the light metals conference of the Western States Council at Seattle in June, even though the West's government-owned, war-created plants may have capacity far in excess of immediate postwar needs.

In its favor the West, particularly the Pacific Northwest, has cheap power and good climatic and labor conditions which make it an excellent area for the production of aluminum ingots. The problem lies in getting these ingots to the eastern consuming markets and in developing a fabricating industry in the West, a tough one, but the West refuses to consider itself stumped.

If the price is right, most of these government facilities will not go begging, for the two main aluminum producing factors, Aluminum Company of America and Reynolds Metals Co., are due to expand their Western operations beyond the pre-

war volume and will need added capacity. Even a Western-owned aluminum corporation is not beyond possibility, for Columbia Metals Co. of Seattle, who will operate the DPC alumina-from-clay project at Salem, Oregon, has ambitions to branch out in a big way. Some say Columbia has plenty of Western capital lined up; other observers will have to be shown.

Alcoa, which operates all these Defense Plant Corporation facilities except the Olin reduction plant in Tacoma, the Kalunite experiment in Salt Lake City and Columbia's hope-for-the-future at Salem, has its hands pretty well tied by anti-trust decisions from expressing its intentions to purchase them until the Surplus Property Custodian has submitted his report to Congress. But it has been making and selling aluminum ever since the days when, in the words of chairman Arthur V. Davis, "you couldn't give the stuff away," and meanwhile it is endeavoring to develop new ore facilities in Oregon.

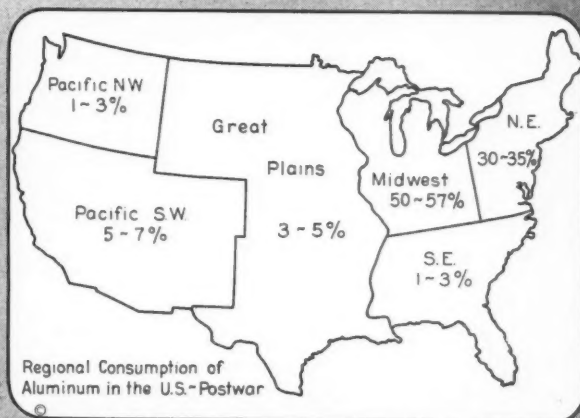
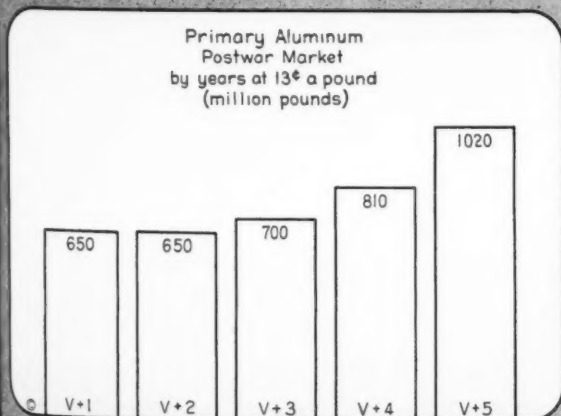
Reynolds is openly in the market for the Troutdale reduction plant near Portland and the Trentwood rolling mill at Spokane, provided Bonneville will supply one-mill power and other conditions are right. The Reynolds people, who came into the aluminum picture by the foil route, predict big developments in the use of foil for fruits wraps and other things, to say nothing of other uses for aluminum.

Columbia is offering to lease three reduction plants, Mead (at Spokane), Troutdale and even Hurricane Creek, Ark., although its sources of capital have not been made public, other than that they are supposed to be capitalists in Washington, Oregon and Idaho. Columbia's immediate sales outlet, as explained informally at the time of the conference, is expected to be stockpiling for the government.

Olin Corporation, who operate a DPC plant at Tacoma rated as a high-cost proposition, and whose subsidiary at Salt Lake City, Kalunite Corporation, is struggling

*** The West has the producing capacity; can it serve the big markets successfully, or develop a fabricating industry of its own?**

Charts courtesy of Nathanael H. Engle, Bureau of Business Research, University of Washington



LIGHT METALS PLANTS IN THE WEST

(From Defense Plant Corp. report to Congress)

ALUMINUM

Alumina Production from Bauxite
None

Alumina Production from Clay

		Cost	Est. Capacity
Columbia Metals, Salem, Ore.	D.P.C. owned	\$ 5,000,000	36,000,000 lbs.
Kalunite, Inc., Salt Lake City	" "	5,000,000	72,000,000 "
Monolith Portland	" "		
Midwest Co., Cheyenne		4,600,000	36,000,000 "

Total Government owned \$14,600,000

Aluminum and Aluminum Ingot (Reduction Plants)

		Cost	per year
Alcoa, Riverbank, Calif.	D.P.C. owned	\$11,767,000	96,000,000 lbs.
Alcoa, Spokane, Wash.	" "	23,090,000	192,000,000 "
Olin, Tacoma, Wash.	" "	6,297,000	41,500,000 "
Alcoa, Torrance, Calif.	" "	24,545,000	160,000,000 "
Alcoa, Troutdale, Calif.	" "	18,665,000	128,000,000 "

Total Government owned \$84,364,000 617,500,000 "

Alcoa, Vancouver, Wash. Alcoa owned 186,000,000 "
Reynolds, Longview, Wash. Reynolds owned 64,752,000 "

Total privately owned 250,752,000

Aluminum Forging Plants

Alcoa, Vernon, Calif. D.P.C. owned \$ 1,700,000 1,125,000 "

Aluminum Extrusion Plants (Tubes and Shapes)

Alcoa, Phoenix, Ariz. D.P.C. owned \$33,700,000
Bohn, Los Angeles, Calif. " " 8,100,000

Total Government owned \$41,800,000

Alcoa, Vernon, Calif. Alcoa owned
Central Metals, Los Angeles Central owned

Aluminum Rolling Mills

Alcoa, Spokane, Wash. D.P.C. owned \$56,400,000 288,000,000 "

Aluminum Permanent Mold Castings

Cons. Vultee, San Diego, Calif. D.P.C. owned (?) 1,400,000 "
Lockheed, Burbank, Calif. " " (?) 400,000 "

Government investment in Aluminum Plants—\$208,864,000 plus

MAGNESIUM

Ferro-Silicon Electro-Met, Spokane, Wash. D.P.C. owned \$ 16,121,000
Ferro-Silicon Permanente, Manteca, Calif. " " 6,142,000
Electrolytic Basic Magn'm, Las Vegas & Gobb, Nev. " " 131,014,000

Government owned Magnesium Plants \$153,277,000

Permanente Metals, Permanente, Calif. Kaiser owned

Summary:

Government owned Aluminum Plants in West \$208,864,000 plus
Government owned Magnesium Plants in West 153,277,000

TOTAL GOVERNMENT INVESTMENT IN 11 WESTERN STATES \$362,141,000

to perfect an alumina-from-clay process, have said nothing about their postwar desires.

The Olins, reputed to have made a tremendous fortune in brass in the Middle West, sent no one above their Tacoma plant manager to the light metals conference. In contrast, Alcoa's delegation was headed by their "grand old man," Chairman Davis, guiding genius of the company since it first started in 1888, while Reynolds had a flock of vice-presidents, including David Reynolds, son of the president.

After listening to a mass of economic, political and technical information presented at the conference, the Western States Council appointed an all-western committee of 15 to formulate a policy or

program on light metals. Magnesium, being a newcomer in the field, occupied a very minor place on the conference program, and nothing was said about what may happen to Basic Magnesium, the top producer of this metal until it was shut down, along with various other DPC plants, when a surplus of magnesium developed.

The largest users of light metals, the West Coast aircraft industry, were left off the committee at their own request, to give them more freedom in a consulting capacity without being "on the spot."

A Few Close-ups

Although the aluminum producers were kept off the program as a matter of policy, an exception was made in the case of magnesium, where a Dow representative was

permitted to outline the Western foundry and fabricating possibilities. The conference was also an opportunity to get a better picture of the producing factors through personal contact with some of their top personnel.

Alcoa's Arthur Davis is a Yankee of Yankees who had not been in the Pacific Northwest since 1899, when he sold the old Snoqualmie Falls Power Company the first order of aluminum transmission wire in history, and then had to get his firm into the wire manufacturing business because the copper and steel wire factories turned up their noses at aluminum (see story on page 77, this issue).

I. W. Wilson, (plain spoken, engineer-type) vice-president in charge of operations, worked on the electrification of the Milwaukee railroad through the Cascades for \$60 a month and found (Editor's note: we assume that he got the "found" but neglected to ask him) to earn money to get through college. Arthur Hall, (personable polished Washingtonian—D.C. not Pacific Northwest) third member of Alcoa trio, is vice-president in charge of post-war planning.

David Reynolds, vice-president and general sales manager of the aluminum division of Reynolds Metals, is an energetic young Southerner. Keen Johnson, vice-president and assistant to the president, (former Kentucky governor, very Blue Grass flavor); Walter L. Rice, vice-president and head of the legal department, (still in his thirties) was an assistant U. S. attorney general in charge of prosecution of the Alcoa anti-trust case before he joined the Reynolds ranks. Dr. Wells Anderson, of the Reynolds research laboratories, (quiet, studious) rounded out the Reynolds group.

Columbia Metals' president, James O. Gallagher, is from Seattle and was introduced to a number of those present at the conference at a dinner presided over by President Charles Clise of the Seattle Chamber of Commerce.

The Aluminum Picture

Integration of an aluminum industry in the West calls first for the production of alumina from bauxite ore. The West has no such plants now, but there has been talk in Reynolds circles of moving one of the DPC alumina plants out here from the South. Three experimental plants are under construction in the West for refining alumina from Western clays. For reducing alumina to ingot aluminum, the West is over-provided with plants.

One rolling mill at Spokane, and an extrusion mill at Phoenix, Arizona, for bars, rods, tubes, shapes and wire, are in operation, but there are no Western forging plants of any size.

Summaries of the information brought out by several of the conference speakers follow:

Dewey Anderson, executive secretary, Senate Small Business Committee. Any

new factors in the business will have to gain access to an adequate supply of bauxite at a cost comparative with that controlled by Alcoa and Reynolds. No known commercial deposits of high-grade bauxite in North America except in Arkansas. Nearly all of this owned by Alcoa. Nearest available foreign sources are British and Dutch Guiana, controlled by Alcoa, the Aluminum Company of Canada, and Dutch owners, and in Jamaica and Haiti controlled by British interests and Reynolds.

There is bauxite in Europe, principally in the Balkans and France, but of a different type than that used in the United States. Some bauxite known to exist in Brazil, Africa and China and the Japanese were getting some bauxite from South Pacific islands now under our control, particularly the Carolines, but quantity and quality of this supply not well known. Large quantities medium-grade and low-grade bauxite available in the United States, but the cost much greater than using high-grade bauxite. The government now owns a considerable stockpile of bauxite in Arkansas, mostly medium grade, sufficient to supply needs of new producers for a few years.

Value of the Plants

Integration of operations from the raw materials through the processes of fabrication, not necessarily by the same operators, but in the same area, is more economical, results in more employment and is more desirable in every respect than concentration of the production of virgin metal in the South and West and fabrication in the East.

Government-owned fabrication plants at Spokane and Phoenix are probably too large and specialized for successful, independent private operation. Prospects for the California aluminum ingot plants not bright unless lower rates are worked out. Operation of the ferro-silicon magnesium plants at Spokane, Wash. and Manteca, Calif. too high for peacetime competition unless radical changes in techniques can be made. The Las Vegas plant, largest in the world, badly located in relation to raw materials and markets, and slim chance of its being able to compete with the low-cost plants of Dow in Texas and Michigan.

All of the Western plants face difficult problems of long distance from established markets, lack of nearby fabricating facilities and high freight rates. So long as aluminum ingot, for example, can be shipped to the East at less than half the freight rate on aluminum sheet and less than a third of the rate on finished aluminum articles, the prospects of Western fabricators in the Eastern markets look rather dubious.

Contracts and advances by the American and British governments, under the pressure of war emergency, to the Alumi-

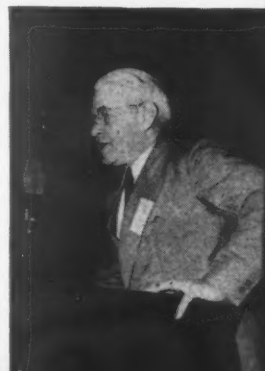
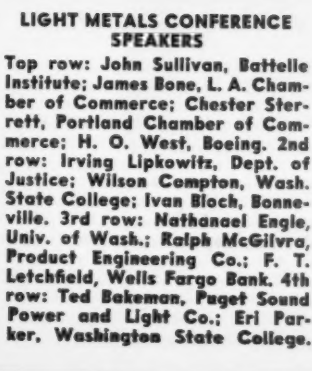
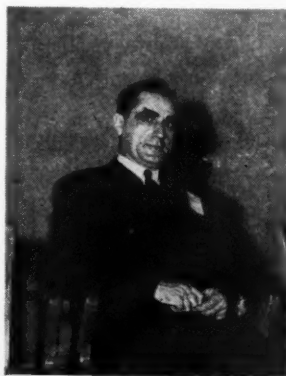
num Company of Canada, have combined to expand that company from a minor institution to the largest and lowest-cost producer of aluminum ingot in the world, with a capacity of over a billion pounds a year and with a privately owned hydroelectric plant of over 900 thousand kilowatts capacity.

Hans Klagsbrunn, executive vice-president, Defense Plant Corporation (paper

read by Chris Gilson). We are having engineering, conversion, cost and marketing studies made of Geneva and Fontana, and will extend this work into the magnesium and aluminum fields and others.

R. F. C. Credit Policy

We are prepared to extend fair and liberal credit in the marketing of our plants. If you can obtain private financing, God bless you; but if not, we are not on a cash



LIGHT METALS CONFERENCE SPEAKERS

Top row: John Sullivan, Battelle Institute; James Bone, L. A. Chamber of Commerce; Chester Sterrett, Portland Chamber of Commerce; H. O. West, Boeing. 2nd row: Irving Lipkowitz, Dept. of Justice; Wilson Compton, Wash. State College; Ivan Bloch, Bonneville. 3rd row: Nathanael Engle, Univ. of Wash.; Ralph McGilvra, Product Engineering Co.; F. T. Letchfield, Wells Fargo Bank. 4th row: Ted Bakeman, Puget Sound Power and Light Co.; Eri Parker, Washington State College.

undry
onfer-
get a
actors
me of

ce of
Pacific
ld the
ny the
wire
s firm
ss be-
ories
(see

ineer-
oper-
of the
scades
note:
t neg-
to get
nable
Paci-
Alcoa
post-

and
inum
ener-
nson,
presi-
very
vice-
ment,
U. S.
ution
he he
s An-
bora-
t the

es O.
intro-
at the
er by
eattle

ustry
ction
West
e has
oving
here
plants
or re-
For
the

d an
for
re in
forg-

ught
makers

ary.
Any

945

basis, and again we are willing to meet your needs.

We don't think we can adopt a rule of thumb for credit, because such a rule might very well pinch one man and be nothing but a windfall to the next, depending on the nature of the plant and the nature of his operations; but we would expect to extend credit to you on a basis where it isn't so liberal that you are in a position to freeze out your competitors, nor so tight that you would be unable to operate. We think we can work it out, and we have had a number of instances where it has been worked out successfully.

Power Costs

Ivan Bloch, chief of the division of industrial and resources development, Bonneville Power Administration. In terms of the nation's competitive aluminum future, the probable postwar estimated range of costs for Alcoa plants of from 7.69 cents to 9.6 cents is most significant and controlling. Any plant which cannot operate within this range cannot be considered as one with a reasonable competitive chance. This rules out in nearly all government plants with the principal exception of the reduction plants at Jones Mill, Arkansas; Troutdale, Oregon; and Spokane, Washington; and possibly at Tacoma, Washington. It is assumed that all privately owned plants of Alcoa and Reynolds will also be within this range to continue operation.

The aluminum industry can only operate in locations where premium power, available every hour of the year, the costliest to purchase, can be made available at between 1.0 and 3.3 mills per kwh. This will be the determining factor in both continued plant operation and expansion anywhere in the United States.

A price of 12c a pound, including profits and all costs, is the level at which I believe Pacific Northwest plants can operate and stand in competitive position with the other low-cost producers east of the Mississippi.



• MEET ALCOA: Arthur V. Davis, chairman of the board; Arthur W. Hall, v.p. and chairman of postwar planning committee; I. W. Wilson, v.p. in charge of operations.

WESTERN STATES COUNCIL COMMITTEE OF 15 FOR LIGHT METALS

D. K. MacDonald, Chairman, D. K. MacDonald Co., Seattle
Al Bauer, Manager, Oregon Shipbuilding Co., Portland
John Beall, President, Beall Pipe & Tank Co., Portland
Benjamin Benovski, School of Mines, Socorro, New Mexico
Earl Braden, Spokane Paper & Stationery Co., Spokane
James H. Bradford, Gen. Mgr., Magnesium Casting Co., Las Vegas, Nev.
John Bradley, President, Bradley Mining Co., Boise, Idaho
Ernest L. Mathy, Vice Pres., Victor Equipment Co., San Francisco
Maurice Mann, Newcastle, Wyoming
Tom Moffett, Hooker Electrochemical Co., Tacoma
A. F. Moriarity, Arizona
Bryant Meyers, General Mgr., Kinney Aluminum Co., Los Angeles
Harlan I. Peyton, Peyton Investment Co., Spokane
Dr. Delworth Walker, University of Utah, Salt Lake City
James E. Louttit, Secretary, Mgr. Industrial Dept. Seattle C. of C.

Dr. Nathanael H. Engle, Director of Business Research, College of Economics and Business, University of Washington. Our appraisal of the probable consumption of aluminum, both primary and secondary, in each of the first five postwar years. If the price remains at 15c for virgin metal it is anticipated that total demand the first full postwar year may run to 800 million pounds, of which 200 million will be for secondary metal. It is recognized, of course, that there is a large stock pile of scrap aluminum in the hands of the government and that the actual market will be greatly affected by government policy as to release of this metal and price.

We anticipate that the total demand will increase from 800 million to 1,500 million pounds over the first five postwar years if the price stays at 15c and at the end of that time the demand for virgin aluminum may be as great as 900 million pounds a year. If the price should be lowered to 13c for virgin metal, a somewhat larger demand is foreseen, ranging from 900 million pounds the first year to 1,700 million the fifth, of which the demand for virgin metal is expected to reach 1,020 million by the fifth postwar year.

Moreover, this survey was limited to the domestic market in the United States. Should foreign demand develop, as it well may, especially in the Pacific, the outlook for aluminum reduction would be even brighter.

On the basis of our interviews with the men most qualified to know, the industrial engineers and designers, the key production and marketing men, we came out with the startling fact that by five years after the war the rail, auto and air transport industries may take from 56 to 59 per cent of a postwar market that will range from 1,500

to 1,700 million pounds of primary and secondary aluminum.

The iron and steel industry expects to absorb 24 per cent of the larger total, the electrical industry 6-8 per cent for electrical products and transmission lines; non-ferrous metals from 3-5 per cent, cooking utensils 3 1/3 per cent; machinery 2 1/3 per cent; and the remainder, about 1 per cent by miscellaneous industries.

Aircraft Industry Needs

H. O. West, executive vice-president, Boeing Aircraft Company. What the West Coast aircraft industry wants may be stated briefly as follows:

First, to have the sources for our materials located as close as possible to our factories.

Second, the combination of those sources to be a completely integrated industry.

Third, we of the aircraft industry should like to work closely with our materials sources in research and development.

Fourth, to have better materials.

Fifth, to have lower material costs.

One of the primary purposes for this first requirement is to reduce the elapsed time between the signing of a contract and the delivery of the product, by eliminating the delays now regularly incurred because of the necessity of obtaining materials from eastern sources. While the establishment of light metals plants in the West during the war has somewhat reduced this handicap, there is still much to be done before the situation can be considered satisfactory to the West Coast aircraft industry.

The aircraft industry is a fast-moving industry, but the time elapsing between the design and the delivery of the finished product at the present time must be reduced substantially if the industry is to meet the demands and requirements of its military and commercial markets. These delays in obtaining materials place a heavy financial burden on the manufacturer because of the necessity of maintaining heavy inventories, both in his own warehouse and en route between the mill and his factory.



• MEET REYNOLDS: Keen Johnson, vice-president and asst. to pres. David Reynolds, v.p. and gen'l sales mgr., aluminum div.; Walter L. Rice, v.p. and head of legal dept.

While a portion of the total list of materials required for a given model airplane consists of standardized items, much of the list is composed of special items peculiar to that particular model. Each of these special shapes and forms requires its special tooling, pattern, die, or fabricating technique, and much time is consumed between the placing of the purchase order and the receipt of the special item at the manufacturer's plant.

Many of these special items involve the basic structures and are determining factors in the timing of our manufacturing operations. It is therefore essential that the very closest of relationships, both as to geographical location and as to cooperation, be maintained between the aircraft manufacturer and his material source in order to reduce long delays resulting from the development of these special materials. As a matter of fact, a wide geographical separation of the manufacturer from the source of materials is detrimental to the interest of both the light metals industry and the West Coast aircraft industry. It is axiomatic that a close geographic relationship will reduce the time lag, reduce costs, and automatically bring about the cooperation so necessary to the prosperity and welfare of both industries.

It would appear that consideration should be given immediately to the establishment on the West Coast of a facility for the reduction of bauxite ores to alumina in order that ores from local sources as well as from the Caribbean, the South Pacific, or Asiatic sources may be processed on salt water in close proximity to the reduction plants. At the present time light metals in certain forms are being produced in the West.



• AT WORK AND AT LUNCHEON. Top row, left: L. D. Milbrad, Jensvold Mfg. Co., Olympia; Roger Sherman, Dalmo Victor Company, San Carlos, Calif.; A. A. Kearney, Brown Industries, Spokane; Eri B. Parker, Washington State College; Louis Lundborg, S. F. Chamber of Commerce. Bottom row: David Reynolds, Reynolds Metals; H. O. West, Boeing; J. O. Gallagher, Columbia Metals; Roger Sherman; W. R. Seyfried, Columbia Metals.

It is essential to the welfare of the aircraft industry in the West that light metals in all forms, including sheet, strip, wire, rod, bar, extrusion, tubing, rolled sections, pressing, forgings, and all types of castings be made readily available.

A Word for Magnesium

Leo B. Grant, Sales Manager, Magnesium Division, Dow Chemical Company:
You have here all the resources on which

to begin building an active, expanding magnesium industry. Most important of all, you have customers. Second, you have sufficient manpower. Third, the fabricating know-how is available to you. Fourth, you have the raw materials and power to produce magnesium.

Out of the 55 foundries in the U. S. which are sand casting magnesium, there are only 7 located in your area, and 6 of these are in California. As for die casting plants, there are 5 Western plants, all located in California, out of a total of 14 for the country.

There are no plants in any of the Western states producing magnesium wrought products—extrusions, forgings and sheet. Although the aircraft companies, many of which are located on the West Coast, have had considerable experience with fabrication and assembly of magnesium parts, there are few regular metal fabricating shops that are familiar with the metal.

It seems logical, then, that some advance should be made in magnesium foundry and fabricating capacity, if manufacturers are to be able to utilize magnesium in their products.

Eri Parker, Washington State College:

The West needs adequate magnesium casting facilities if the area is to assume a position of leadership in the utilization of light metals. Of vastly greater importance, however, is the added stipulation that the facilities be a properly balanced combination of sand casting, permanent mold and die casting plants suitably located with respect to the market they serve.

SUMMARY OF PRODUCTION COSTS OF GOVERNMENT-OWNED ALUMINUM PLANTS

(In cents per pound, Aug. 1943 - April 1944 average)

Name of plant and operator	Total costs*	Alumina	Power	Labor	Carbons	Other items†	Depreciation
Spokane (Mead.) Alcoa	10.605	5.584	1.844	1.044	1.103	.664	.426
Troutdale, Ore. Alcoa	11.036	5.752	1.940	1.269	1.142	.515	.595
Jones Mills, Ark. Alcoa	11.694	4.739	3.983	.975	.887	.858	.898
Los Angeles Alcoa	13.652	5.658	4.279	1.623	1.153	.610	.746
Tacoma Olin	15.379	5.745	1.947	2.568	.873	3.034
Riverbank, Calif. Alcoa	14.336	5.624	4.546	1.497	1.506	.776	.540
Queens, N.Y. Alcoa	15.194	5.508	5.548	1.231	1.528	1.195	.327
Burlington, N.J. Alcoa	15.334	5.293	5.607	1.503	1.425	1.087	.994
Massena, N.Y. Alcoa	15.328	5.607	7.090	1.115	1.208888

*Before depreciation.

†Less depreciation.

MAGNESIUM OPERATING COSTS, GOVERNMENT-OWNED PLANTS

Operator and Location	Process	Capacity (million lbs. per mo.)	Cost, cents per lb. 3 mos. avg. 1944
Dow, Velasco, Texas	Electrolytic	6.00	12.10
Diamond, Painesville, Ohio	"	3.00	16.50
Dow, Marysville, Michigan	"	6.00	18.86
International, Austin, Texas	"	2.00	21.87
Mathieson, Lakes Charles, La.	"	4.50	73.28
Basic, Las Vegas, Nevada	"	9.33	18.70
Magnesium Reduction, Luckey, Ohio	Ferrosilicon	.83	18.92
Electro-Metallurgical, Spokane, Wash.	"	4.00	20.21
New England Lime, Canman, Conn.	"	.83	25.09
Permanente, Manteca, Calif.	"	1.67	28.53
Amco, Wingdale, Michigan	"	.83	29.44
Ford, Dearborn, Michigan	"	3.33	64.78

(From Defense Plant Corp. report to Congress)

Isogonics, Evolved by Western Man, Revolutionizes Drafting

ANY ENGINEER, shop foreman or mechanic who has sweated over "blue prints" in an effort to explain them to inexperienced workers or to understand them himself, can consider such troubles at end with the advent of the new and revolutionary method of drawing—**isogonic drafting.**

At least he can as soon as his plant takes it up, which should be pretty soon if it follows the lead of such production entities as Westinghouse Electric Corporation, U. S. Naval Drydocks, Hunters Point Drydock, and the Mare Island Navy Yard, to name only a few.

Furthermore, other problems that have long been a sore spot to production men and which have cost American industry untold sums will be virtually eliminated. Just as an example, such a thing as a mistake on an isogonic drawing is practically impossible. The isogonic overlay, which can be used on virtually all such drawings, instantly detects errors when individual drawings of the various parts are superimposed on one another.

Naturally such a statement is a strong one, but it is justified. Isogonic drafting is the result of what amounts to a new science, which its originator, Nelson E. Bohall, has named isogonic geometry.

Just to keep one from fumbling with the unabridged dictionary, isogonic means having equal angles. Bohall uses the word to emphasize the difference between his new system of drafting and that of the isometric variety, the nearest thing to it, which has been known for considerably more than a century. Then, too, there is a more inherent difference. Isometric means having equal measurements, and since his new system has more to do with the angles between the axes of any object to be drawn, rather than the measurement of the axes themselves, isogonic is a more accurate description.

The distinction is necessary, says Bohall, putting it as briefly as possible, since "man must learn to visualize objects as they are, not as seen through the eyes."

Core of the difference between geometry of the isogonic kind and the plane and solid types, originated by such old timers as Thales of Miletos and Euclid, lies in its three-dimensional aspects.

To an iso-geometrician the common garden variety rhombus, that looks like a square packing case pushed half way out of line, isn't what it seems at all. Geometricians who continue to regard their science as it has been looked at for the past several centuries grow cholerical when told

that one of its angles is 120 degrees instead of 90.

Bohall, however, blandly states that no matter what a protractor says, the 120 degree angle is actually 90 degrees. Quite truthfully he assures anyone who listens that it is all in the point of view. All he wants to do is to save time for engineers and other workers by making it unnecessary for them to stand on their heads in trying to visualize an orthographic drawing or struggle through sheaves of blue prints.

Furthermore, he wants to eliminate experimenting on the job, to make it possible for both the buyer of whatever is being built, and the builder, to be able to see beforehand just what the finished product is going to be like.

To accomplish this object, of course, something more was necessary than simply the mathematical and philosophical legerdemain of his geometry. Accordingly, Bohall hit on the idea of the isogonic overlay.

Completely new to the drafting world, the overlay, as a three-dimensional drawing to scale, does the job thoroughly. In structure it is not unlike the anatomy of an onion. Separate, highly transparent drawings of individual parts of sub-assemblies are superimposed one upon another in sequence from the first step to the last. Looking down on an isogonic overlay of a ship's section, say, one gets an X-ray picture to scale of the exact conditions that will appear in the structure. Thus, a workman who has to install a pipe hanger arrangement and another who has to put in a sprinkler system or lighting fixtures both use the same isogonic draft to determine location of the installations.

Inevitably such a system eliminates the lost motion obtaining when workmen go into huddles as they attempt to solve the mystery of orthodox shop drawings. Since both have an accurate picture of the structure in all phases of its development, tremendous savings in time result from the new device.

Supervisors also are freed of anxiety as to whether they are directing their subordinates in the proper procedures or whether the plans can be easily followed. They know that the designing engineer has been able to check clearances and tolerances between the related parts as well as to spot any errors that so often have crept into the old style "blue prints."

Typical of the success of isogonic drafting is the engineering report of J. S. Hebrew, Managing Engineer for the Westinghouse Electric Corporation plant at

Emeryville, California.

Late in the fall of 1943 the plant was engaged in the production of a forced draft turbine blower developed for Victory ships. With the complicated drawings in use during the beginning of the job, production lagged so much that finally Frank L. McAdams of the engineering department, who knew the fundamentals of isogonic drafting, made a three-dimensional assembly drawing of the turbine blower. The drawing proved an instant success, so much so that when Industrial Relations Supervisor L. W. Ralston heard of it he suggested that the industrial production drafting department, headed by Bohall, of the War Production Training School of the San Francisco Unified School District, be called on for help.

Immediately after that McAdams was placed in the school along with a selected group of students from the shop where they received instructions from Bohall. To speed up production in the plant, many of the drawings vitally needed there were made student projects for completion of advanced training in isogonic drafting.

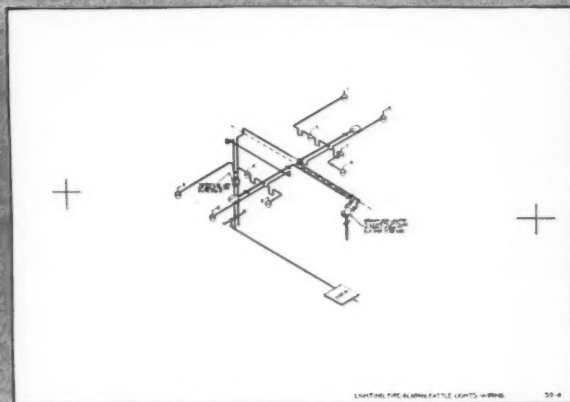
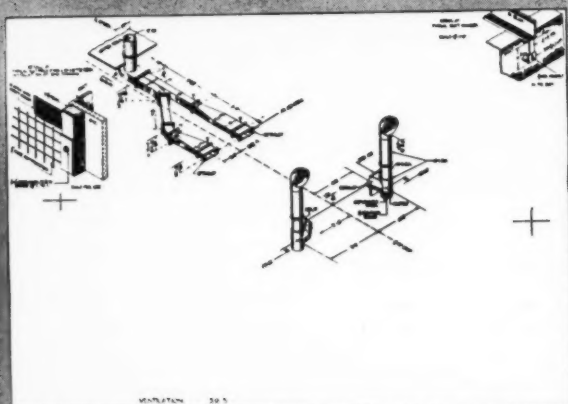
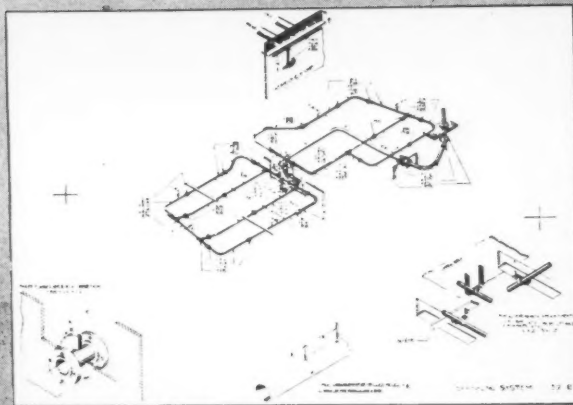
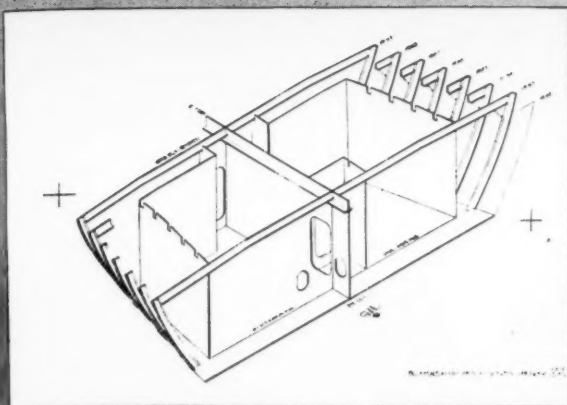
A little later the value of the new system was cinched in the eyes of company executives when it was found through use of an isographic overlay that a testing plug for the inlet valves of the turbine blower base did not conform with its orthographic drawing.

Results were so completely satisfactory that Hebrew wrote into his report the following: "These three-dimensional production drawings have received universal approval throughout our Emeryville shop."

But that isn't all that Hebrew had to say about the matter. Remembering the times when isogonic overlays had shown orthographic drawings to be wrong, he added: "In developing the drawings, it is revealed that improperly drawn detail parts or major structures will not fit into the picture even as an improperly fabricated part will not fit into an actual assembly of the machine. To a great degree the drawings are self-checking, thus the tedious checking required with multi-view orthographic drawings is eliminated."

In making a comparison of the isogonic with the orthographic system of drawing in regard to their production costs Hebrew said that a saving of from 20 to 30 per cent could be expected in the new method. This, coupled with the increased accuracy of work in both the drafting room and the shop, assures it of an increasingly greater place in the future.

While many have used isometric or iso-



• These four drawings, superimposed, form an isogonic overlay of a ship's section. Workers installing the wiring system, ventilation facilities or sprinkling system all use the same overlay. Thus, at all times, they are able instantly to relate the job at hand to the others that must be done in the same area, so avoiding much of the attendant confusion that is apt to arise in using the regular drawings.

gonic drawings in the past in connection with production drafting, it has usually been as an auxiliary only. Too often the temptation to lapse into perspective has defeated the effort, but this new kind is apparently fool proof.

As is usual with all discoverers or innovators, Bohall, who started the evolution of his idea while serving as a soldier in France during the first World War, had the very devil of a time in getting a hearing for his system.

In 1940 when he was still calling it isometric drawing he found it impossible to get anywhere. At the mention of the word he was informed by his hearers that they knew all about it. According to his own account he never got a chance even to explain that his work was not the pseudo drawings of regular isometry. At length, with war coming increasingly nearer, he decided to go to work as instructor in shipbuilding.

Finally, in the fall of 1942 when he could see that his job of instructor in shipbuilding was drawing to a close, he began to make the rounds of the drafting schools

in San Francisco. Though he talked to the instructors, he paid special attention to the students. As a result, about six months later when he went to J. E. Clisham, coordinator of War Production Training, to ask him to back a class in the subject, he already had twenty students vitally interested in the proposed course.

Clisham, wanting to back Bohall to the limit because of his faith in the workability of Bohall's idea, agreed to establish the course using such an innocuous name as Plan Reading in order to ease the way for approval of the U. S. Office of Education. Getting approval was further simplified through the request of the Permanente Metals Corporation which offered to hire all graduates of the course at high wages.

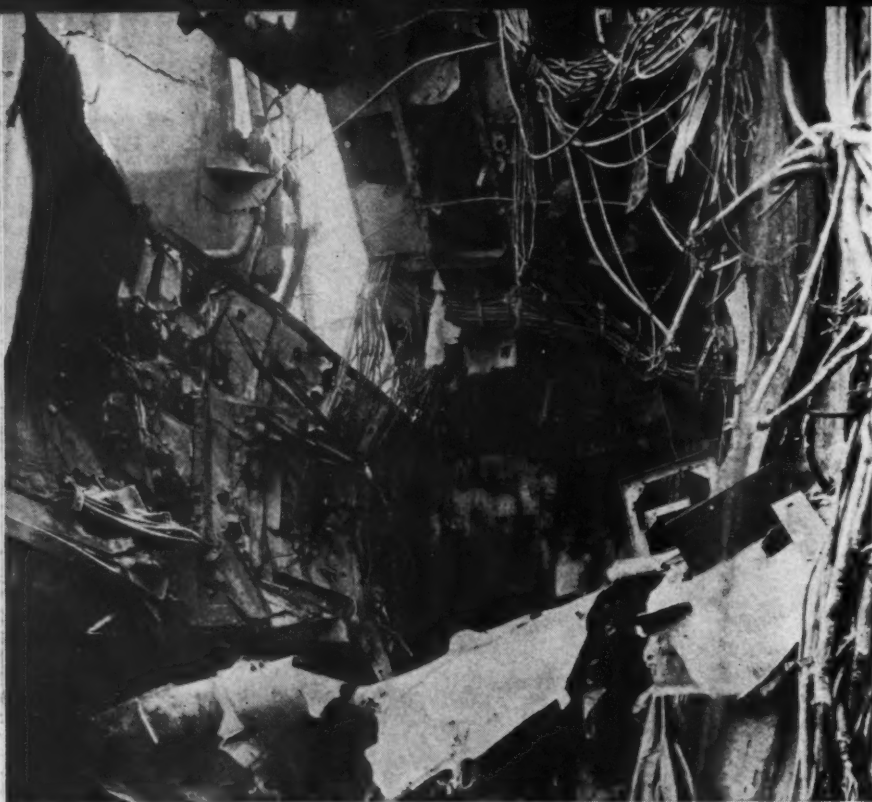
Bohall went into action immediately. The course so quickly proved itself that within a few months it was officially named Industrial Production Drafting, receiving the blessings of the United States Office of Education, the California State Board of Education, the San Francisco Board of Education, and the War Manpower Commission.

From then on it was comparatively easy sailing for Bohall who by his insistence on the use of his new geometry, or his new way of looking at old geometry, had conquered the difficulties that were too much for earlier geometricians.

Fittingly enough—and it should prove something of a consolation to the Old Greeks now on the other side of the Styx who laid the groundwork of the science—Bohall has just as much right to shout Eureka as Archimedes when he leaped from his bath to run through the streets of ancient Syracuse.

For not only is he entitled to the chief credit for bringing the benefits of isogonic drafting to American industry but he was also born in Eureka, California.

To cap this, Dr. C. A. Doxiades, advisor to the Greek delegation at the recent United Nations Conference in San Francisco, after looking over the 450-page textbook which Bohall is to publish in early autumn, pleaded that a translation be made into Greek at the earliest possible moment in order that newly developing Greek industry might take full advantage of it.



• More battle damage to repair in West Coast yards. Shattered bulkheads of destroyer O'Brien. Kamikaze bomber crashed just aft of the bridge, exploding 40 mm. magazine.

Temporary Easing in Ship Repair Crisis

TEMPORARILY the West Coast ship repair situation has eased off, making *Western Industry's* plea in the July issue for some concentration of top authority to cope with the situation seem less acute. Nevertheless, *Western Industry* has received considerable commendation for its stand.

The entire article was inserted in the Congressional Record at the request of Congressman Hugh De Lacy of Washington. He also wrote to *Western Industry* as follows:

"Your article was most interesting and covers most of the causes for failure to get adequate manpower on vital ship repair work. As you know, since the article was written the War Labor Board, acting on the request of the majority of West Coast senators and congressmen, finally approved granting of the 11.6 wage differential in the Southern California area.

"However, men are still leaving the Navy yards, with the Bremerton yard alone still in need of 6,100 skilled men. Despite more than 1300 sent into the area in June, the turnover has been so great that the problem is still not met.

"Chairman Taylor of the War Labor

Board has promised me a full and immediate review of navy yard wages, so that, if the board agrees, they can be brought into line with private yard scales. This should be of considerable assistance.

"I believe that we are too inclined at times to look to the establishment of additional government machinery, such as the proposed strategy board, as solutions to problems, when adequate government machinery already exists under the Director of War Mobilization. Such a strategy board, even under Presidential authorization, could not meet all the problems, although its advice might be extremely helpful.

"Housing, postwar security, including both full employment, future of the merchant marine, disposal of government-owned plants to build new Pacific industries, unemployment compensation and many other factors which you properly point out as entering the picture can only be solved by adequate Congressional action. I do agree, however, that West Coast industry and labor should join in formulating an adequate program for joint presentation to appropriate agencies and Congress. If all agree on the proposal

made by *Western Industry*, then, of course, great consideration should be given to such a proposed solution.

"Unless the situation improves, it may be necessary for Congress to act, and for the Naval Affairs Committee, of which I am a member, to begin an investigation into all the causes of the situation."

Senator Wayne Morse of Oregon wrote to *Western Industry*: "I think the plan outlined by you in this article is a constructive one. . . . I am enclosing a copy of my speech on the ship-repair problem which sets forth my views on the basic causes of the ship repair crisis on the West Coast. At the hearing on the West Coast differential issue I presented arguments in behalf of the three Western states of Oregon, California and Washington. My arguments contained serious criticisms of the mishandling of the West Coast ship repair program by the procurement agencies. I particularly stressed the unfair discriminatory practices of those agencies in the course of my argument."

Congressman Clyde Doyle of California wrote: "I have noted your thorough and constructive analysis and projection of sensible outlook and plan for helping to further win the war and aid in economical security."

From Senator Warren Magnuson of Washington: "It sounds to me like a good idea. Be assured I will do what I can to further the principles involved."

Harold W. Wright, general manager, Los Angeles Chamber of Commerce, wrote: "Anything that can be done to improve the rate of repair on damaged warships will be of benefit not only to the entire war effort, but to the particular Western cities faced with this immediate problem. I think you have made a contribution in the matter."

Carl Flesher, Pacific Coast director for the U. S. Maritime Commission, points out that the so-called Greenslade committee, composed of representatives of the Navy, Army, Maritime Commission, and War Shipping Administration, has functioned to allocate repair work along the coast and that it has consulted with production urgency committees of WPB.

He states that the fluctuation in volume and variation in type of work involved makes it extremely difficult to keep the labor supply in balance.

Mr. Flesher further reports that repair facilities on the coast are now four times as great as they were six months ago in the San Francisco Bay area. Marinship and Western Pipe and Steel are now combining repair work and new construction, as well as all four Richmond yards, while Moore Drydock, Hurley, United Engineering, and General Engineering are entirely on repairs. Tremendous repair volume is now going through Calship and Consolidated in Southern California, with employment increasing on account of the

removal by the War Labor Board of the unfavorable wage differential.

According to Mr. Flesher, the navy yard \$1.26 pay is actually as good or better than the private yard level of \$1.34, because the navy yard employees are under civil service and get a month's leave with pay and 18 days sick leave annually.

The magnitude of naval operations in the Pacific, with the consequent mounting of all kinds of repair work, aside from battle damage, is indicated in the navy's recent announcement that 1,322 combatant ships have been added to the fleet since July 1, 1940, and that the over-all navy has expanded since Pearl Harbor from 7,695 ships to more than 100,000 ships and auxiliaries.

For this reason, repair work may prove in the long run to be an attraction in holding skilled labor in the area. No matter how soon the war ends, a major part of the Navy is likely to remain in service in the Pacific Ocean, insuring a steady volume of work for several years without the hazards always attached to private enterprise engaged in serving civilians.

With approximately \$100 million of command contracts being placed in the Western area, the calls for manpower, especially for men with skills, continues to increase. Railroad shops are now urgently in need of assistance. One of their difficulties may be the lower wage, \$1.05 an hour, and the more temporary character of the work.

War Manpower Commission recently brought its top officials from Washington and all the regional offices throughout the country to the Pacific Coast, to see at first hand the production operations for which they are trying to provide skilled labor through an inter-regional recruiting campaign.

Western Industries Study Reconversion

RECONVERSION is to proceed more slowly in Western plants than in any others in the country, and it has already been set back by about 60 days on the Pacific Coast through the heavy demands of the ship repair program, says Thomas N. Johnson, regional business consultant of the U. S. Department of Commerce, in his quarterly report.

At the same time, however, a great many West Coast firms are operating on schedules far below their rated capacity. Of the 250 organizations in the northern division of the California Metals Trades Association, for example, 40 per cent are operating at less than 70 per cent of capacity and 21 per cent are operating at less than 50 per cent of capacity.

One manufacturer of farm machinery is basing his plans on a 50 per cent runout in October with final termination of contracts to follow in December. In order to get part of the plant tooled up so that work on an order can begin in October, experimental work and development operations have already been completed and pilot models are now being tested.

In addition, a production line is being planned for space that is now available and a hunt is being made for good used tools. So far, little success has been encountered in the quest for tools, and it is feared that production plans may have to be deferred owing to inability to find some equipment vitally needed for the production work.

Reports furnished by other companies likewise regarding their views on reconversion are as follows;

A firm manufacturing conveyor systems and materials handling equipment foresees a tremendous backlog of peacetime business owing to the fact that many industries have not had sufficiently high priorities to purchase their products during the war years. It feels it will be unable to handle it all.

Among Diesel manufacturers, two have indicated their intentions of producing stationary types of engines as against those produced for marine use, and virtually all in the field are carefully examining the foreign markets for export. The fishing and work boat markets have already been largely taken care of during the war period.

A builders hardware plant, currently producing bomb fuses, feels three months will be necessary for reconversion.

A firm typical of the bedding industry, with production scheduled well into the fall, sees an overall cut of 50 per cent in employment figures when reconversion comes.

Manufacturers of furnaces and warm air distribution systems expect that most plants will require about three months for the change-over. The expectation is that there will be higher employment in the industry than there was in 1939, the best it had had up to that time.

A firm manufacturing aircraft parts plans the production of kitchen utensils and photographic supplies.

• Production capacity in light metals. Scene in Trentwood aluminum rolling mill, Spokane, under wartime operation by Alcoa for DPC.





• Left to right at the conference on war contract terminations in San Francisco on July 11 are Brig. Gen. D. N. Hauseman, Army Service Forces; Lt. Col. Edward Heller of San Francisco; Robert A. Hurley, former governor of Connecticut; Robert H. Hinchley, director of the Office of Contract Settlement; Rear Admiral H. L. Merring, U. S. N. Heller and Hurley were Surplus Property Board members. Shortly after Heller gave his blessing to a Western-owned steel group to take over Geneva and Fontana, Truman asked for one-man board.

Pre-Termination Agreements For Western Contractors . . .

WAR CONTRACTORS and their vendors have heard a great deal about pre-termination agreements. What is a pre-termination agreement? How does it help the war contractor? Does it serve to get his money quicker, clear his plant sooner and make it generally possible for him to save time in returning to civilian production?

The answer to the last question is an emphatic, "yes."

Prime contractor can enter into such agreements with the contracting officer through his local representative. The prime contractor may do likewise with his vendors with the advice and guidance of the contracting officer's local representative.

A war contractor can locate the local representative of his contracting officer by calling the office of the Termination Co-ordination Committee, Lieut. M. B. Shove, 1355 Market Street, San Francisco, Telephone KLondike 22300, Local 282; Major Virgil Samms, 3636 Beverly Boulevard, Los Angeles, DRexel 7081; Lieut. James R. Ferguson, 302 Textile Center Bldg., Seattle; Commander Sheppard, resident inspector of naval material, Continental Denver Modification Center, Municipal Airport, Denver.

Pre-termination agreements are first informal and later a formal understanding in writing as to what decisions, before a notice of termination is received, can be made on the following items:

Stop-work points

By LT. COMDR. EDWARD J. DEMSON
USNR
(Executive Vice-Chairman San Francisco Termination Co-ordination Committee and Officer in Charge of Contract Terminations in the Office of the Inspector of Naval Material S. F.)

Inventory termination
Count and multiply
Government-owned production equipment.
Cost elements
Profit

Those are the main points. To illustrate a pre-agreement on the point of inventory termination for instance, obviously if a contractor knows in advance what he is to do with his terminated inventory, time is saved in clearing his plant of any excess which may well be in the way of his commercial work.

Agreements can be had on all points mentioned herein above or can be reached only on one point. Even an agreement on one point makes that many fewer decisions. Needless to say the more points of agreement reached the more time is saved.

These agreements can be amended or abandoned by either party to them, the Government agency or the contractor, at any time before a notice of termination is received by the contractor. For instance, if the contractor believes he has not been wise in what he has agreed to in his pre-termination agreement, he can call the local representative of the contracting of-

ficer and by letter change or cancel one or all the points of agreement. However, after the termination notice is received terminating a contract, neither party can amend it except by mutual consent. An amendment can well be considered after notice of termination is received if it results in a great loss to either party.

Discussing more in detail the points of agreement in advance planning, decisions can be made now on:

No. 1. Stop-Work Points

In many plants, spoilage and clearance of production equipment factors will require a modification of the stop-work date as received by the termination notice. These factors are generally known now and therefore an agreement on exactly when and where to cut off production upon termination can be agreed upon.

No. 2. Termination Inventory

A most important decision to be made is the disposition of termination inventory. The contractor can ascertain in advance of termination what types of property he wishes to retain for his own use, what he can return to his supplier for credit, what he can sell to others, and finally what he believes should be declared scrap and sold as scrap.

The Government can also agree in advance as to what parts of a termination inventory it will require and what packaging and preparation will be necessary for termination inventory, and also whether or not the contractor will need to find storage space for residual inventory. A contractor should not handicap his civilian production even for a day if his plant can be cleared quickly by advance planning.

No. 3. Count and Multiply

Perhaps the most easily recognizable and ob-

vious advantage of pre-termination agreements is the count and multiply system. Today unit costs and retention values of termination inventory can be decided. If the value of each unit is determined in advance all that a contractor need do on termination is to count the units and multiply by the determined value.

No. 4. Government-Owned Production Equipment

Under existing policy the contractor can offer to buy today production equipment such as machine tools which he is now using in his production. The decision as to what production equipment in his plant which he does not need can be properly marked in advance and determination made of where it will be shipped.

No. 5. Cost Elements

Under the principles of cost determination there are certain categories of costs a contractor can include in his claim and certain items he cannot include.

Discussions and agreements can be had today with the contracting officer's representative as to these cost elements so that a great deal of time will be saved in making such decisions later. The subject of general and administrative expenses is one of the chief factors subject to pre-termination agreements and when settled in advance disposes of an often difficult decision.

No. 6. Profit

Profit problems such as rate of profit can be made in advance and agreements can be drawn up to determine method of equitable profit.

To repeat, prime contractors can make agreements with their sub-contractors on

any decisions that will have to be made upon termination.

In the discussions leading to pre-termination agreements the representative of the contracting officer can soon determine whether or not interim financing will be necessary and advise not only on T-Loans but on needed partial payments.

Training, one of the most important steps that can be taken today will be arranged for so that the contractor, of course, without any charge to him, will, if he desires, be scheduled to attend practical sessions on termination procedures given by Army and Navy officers.

Settlement expenses will be discussed so that the contractor will understand how much additional help he will need to prepare his inventory schedules and proposals and whether that additional help can be reimbursed in post termination charges.

If a war contractor is in a highly competitive pre-war field, he of necessity must plan to return to his civilian production as quickly as he can after V. J. Day. Every decision he makes now brings him to his reconversion goal more quickly, perhaps, ahead of his competitor.

And what is more, he will get there with less confusion and consequently more energy in reserve for R-Day.

rearranging for peace-time production is deductible.

(Example) Machinery removed from plant for war production, the cost of moving such machinery back in the plant in reconverting is deductible in the taxable year in which the expense occurred. Where the machinery, installed for war production is used for peace-time production the cost of moving such machinery in rearranging the plant is deductible.

However, in the case of government owned machinery, which is acquired and moved by the taxpayer, such expense is not deductible, if the government is obligated to remove the machinery.

6. When machinery is purchased and set up ready for use, ordinarily the cost of such installation constitutes a capital expenditure and is considered as part of the original cost of the machinery. However, in the case of heavy machines, the cost of foundations and installation costs, may be charged to a separate account.

Upon reconverting to peace-time production, the cost of new foundations or installations, shall, to the extent of the adjusted basis of the old foundations at the time of their removal, be treated as capital expenditures. When foundations were constructed for war production purposes, and in reconverting, such foundations are removed, the cost, less depreciation or amortization to the date of removal and less any salvage value may be taken as a deduction in the year of removal.

Machinery installed for war production and moved and reinstalled for peace-time production, the cost of reinstallation is not deductible if the entire cost of installation is being recovered through amortization, but shall be capitalized as part of the cost of the machinery.

The cost of installing new machinery, replacing old machinery, abandoned upon conversion to war production constitutes capital expenditures.

7. In reconverting a building to peace-time production a taxpayer may deduct a reasonable amount necessary to restore such part of the building used in war production, to its original condition.

(Example) The term "building" includes piping, wiring, fixtures and other equipment, necessary for the general purposes for which the building would ordinarily be used in peace-time production. For Income Tax purposes, a building with all such equipment, may be included in one account with a composite rate of depreciation, or the building equipment may be set up in separate accounts.

If in converting to war production

Income Tax Deductions For Reconversion

WITH industries now engaged in war production laying the groundwork for future peace-time trade, James G. Smyth, Collector of Internal Revenue for the First California District, has outlined income tax rules and regulations for the guidance of war contractors, planning reconversion to the manufacture of civilian goods and articles.

The following rules will apply in the case of a war contractor who reconverts to peace-time production and incurs reconversion costs.

1. Deductions will be allowed on all ordinary and necessary expenses incurred in carrying on a trade or business. No deduction shall be allowed in any case for amounts paid for new buildings or for permanent improvements, made to increase the value of the property, or in respect of any amount expended to restore property.
2. Deductions will include only expenditures necessary to restore the plant layout to the condition it was in when converted to war production. Costs which resulted in the enlargement of facilities over their condition prior to conversion to war purposes

shall not be allowed. Ordinarily the full cost of converting newly acquired war facilities shall be capitalized.

(Example) If a taxpayer acquires facilities with the view of remodeling to make them suitable for peace-time production, demolition cost, and the cost of remodeling constitutes a capital expenditure. The same rule is applicable when the entire cost of facilities are being recovered through amortization deductions.

3. With certain exceptions, the cost of removing war facilities and materials from the contractor's plant are deductible. Facilities subject to depreciation at rates based on cost less net salvage value, the cost of removal shall be deductible only to the extent that they exceed the amount deducted in computing net salvage value.
4. If a facility is abandoned or permanently discarded on reconversion an allowance for the loss of the useful value may be taken in the year the facility is abandoned. The adjusted basis of the facility for the purpose of determining the loss shall be set at the date the facility is abandoned.
5. Cost incurred in moving machinery,

any part of a building was demolished, ordinarily an allowance may be taken for the undepreciated cost of the part of the building demolished, in the year of such demolition. However, where the taxpayer has not claimed or is not allowed any deduction of such loss at the time of demolition, on re-converting to peace-time production, the parts of the building previously removed or demolished, are replaced to restore the building to its original condition, such cost may be deducted in the year the change is made.

When new and improved type of material or device is used, the amounts deductible shall not exceed a reasonable estimate of the amount necessary to restore such part of the building to its original condition.

The taxpayer may deduct as ordinary business expense; (1) Cost of removing and relocating any building equipment which was removed and relocated for war production. (2) Cost of reinstalling any building equipment which was removed and stored during the period of war production.

8. Cost of incidental repairs made in connection with reversion to peace-time production are deductible in the year in which the repairs are made.

(Example) The cost of painting, replacing broken, or short-lived parts of machinery, replacing defective parts of a wiring system are repairs.

Surplus Property Board Statement

The Surplus Property Act of 1944 requires the board to obtain fair value for surplus property rather than the highest price obtainable. It is the policy of the board that insofar as possible Government-owned plants, and especially the medium-sized and small plants, be sold or leased to local and small rather than national and large concerns.

To attain this objective, the disposal agency should accept an offer from a responsible local group with adequate working capital and know-how, even if extended credit over a long period of years up to 90 per cent of the purchase price is necessary, rather than an equal cash offer from a firm or a group which would tend to concentrate economic power.

It should, also, in consultation with the board, seriously weigh lower offers to purchase or lease emanating from local groups if it appears that the American system of free competitive enterprise will benefit thereby. It should be especially vigilant against accepting offers which may result in the closing of plants by purchasers who would wish to stifle healthy competition.

The board heartily concurs in the present policy of RFC of entering into negotiations for the sale or lease of plants before they become surplus in order that unemployment may be avoided. It requests the RFC to establish committees including representatives of industry, commerce and labor in each community where plants may become surplus to advise with RFC and the board upon their disposition.

Preparing the Heats for Geneva-Fontana Deals

A HEARING in San Francisco or Los Angeles on the disposal of Western steel plants by the War Contracts Subcommittee of the Senate Committee on Military Affairs may give the West a chance for first-hand review of the proposals now being submitted to the government regarding postwar operation of the Geneva and Fontana mills.

This would give the West a real opportunity to judge the worth of the Henry Kaiser proposal for a Western-owned syndicate to lease Geneva in a combined Geneva-Fontana operation, as well as the U. S. Steel Corporation and Colorado Fuel & Iron Corporation proposition regarding Geneva. At the time of going to press, neither of the latter two had submitted bids, but it was expected they would be received shortly. The request for a hearing out in the West, instead of back in Washington where it would be difficult for people to attend on account of the present travel situation, was made to Senator O'Mahoney, chairman of the sub-committee, by the steel committee of the Western States Council.

Demand Cheaper Steel

Of equal importance will be the insistence of the steel committee that a statement of price policy on steel to the consumer be included in the lease or sale contract. In other words, the Council will stand by its original and unchanged policy that what the West needs most of all is cheaper steel, whether it is attained by a change in the basing point policy or by lower freight rates.

U. S. Steel's face seems to be turning westward, for Chairman Irving Olds has announced that if the corporation is successful in purchasing Geneva, it will decommission certain facilities, chiefly in the Pittsburgh district. The less efficient producing units will be shut down, rather than those in the West, Midwest and South.

Its total postwar steel-making capacity will not be much larger, and possibly smaller than at present, Chairman Olds said, but even though Geneva were expanded to include cold reduced tinplate, capacity on this item would not be reduced elsewhere.

He thought the railroads would cooperate in making continued operation of Geneva possible, but said it was a "\$64 question" whether reducing freight rates from Geneva to the coast would lead to attempts to revise the entire Western freight rate structure on steel.

Nothing had been announced at the time of going to press about the negotiations for scaling down the \$111,000,000 loan on the Fontana mill. Henry Kaiser stated in a

recent press conference that he felt it should be reduced \$40,000,000, which would leave a \$31,000,000 gap between the \$40,000,000 secured portion of the loan and the total amount. This probably would be covered in a refinancing plan.

As for Colorado Fuel & Iron Corporation and Wickwire Spencer Steel Company—which are now in the process of merger, joining the Kaiser Syndicate, a statement issued on behalf of Charles Allen, chairman of these two companies, said he had discussed with Kaiser "the possibilities of their working together," and that it might be possible to work out a "feasible plan" if the government "should deem a union of their respective companies as being in the public interest."

Kaiser's Proposal

The Kaiser proposal for leasing Geneva includes the following terms:

1. Five-year lease from completion of plate mill modification, renewable for successive five year periods.
2. Lessee obligated to operate all the leased facilities to the fullest extent consistent with general business conditions.
3. Kaiser Syndicate will finance modification of plate mill to permit rolling of hot strip.
4. Geneva rental based on an amount per ton of finished steel products providing a reasonable return to the Government.
5. If lease is not renewed, or is terminated before accrued rentals equal the cost of modification, the Government will pay Kaiser Syndicate the difference. Syndicate also to be reimbursed for raw materials, etc., on hand.
6. Option to buy Geneva.
7. DPC will transfer all its rights under existing agreements for raw materials for Geneva.

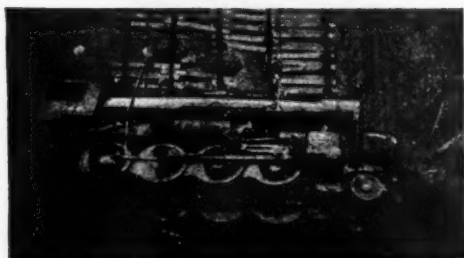
The Kaiser Syndicate proposes, after write-down on the Fontana mill, to erect a \$25,000,000 strip mill on the coast. It announces it has under consideration to be erected in Utah a \$25,000,000 seamless tube and electric welded pipe mill, and erection of \$12,000,000 railroad car fabricating facilities, complete with plant for manufacturing steel wheels and axles. General Metals is mentioned as being the combination.

Adequate working capital will be provided by the Bank of America or a syndicate contingent upon a satisfactory statement of paid-in capital, according to the Kaiser announcement.

One observer states that Fontana and Geneva's combined present ingot capacity is approximately 2,000,000 tons, and to operate at the comfortable rate of 75 per cent, they would have to sell 1,400,000 ingot tons. Prewar Western consumption was slightly over 3,000,000, of which two-thirds came from the East, so Geneva and Fontana would have to capture nearly three-fourths of that formerly supplied by eastern mills.

HYSTERS *are 'naturals'*

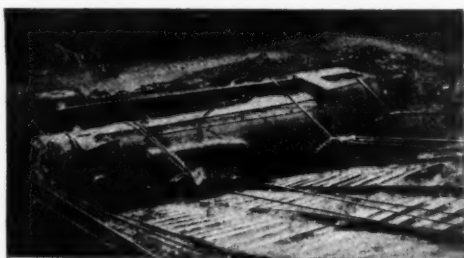
for tough hoisting - pulling jobs like this...



1 This 2-8-0 U. S. A. locomotive slid down the side of a 60-foot fill that gave way after unusually heavy rains. It lay on its side at the bottom of a 45 degree slope.



2 A nearby British school of mechanical engineers loaned two "Caterpillar" tractors equipped with HYSTER Towing Winches. A skid mat of rails anchored to ties was built.



3 Two slings leading from the HYSTER Winches, and double-blocked to hand winches as a safety precaution, were then placed around the locomotive and raising got underway.

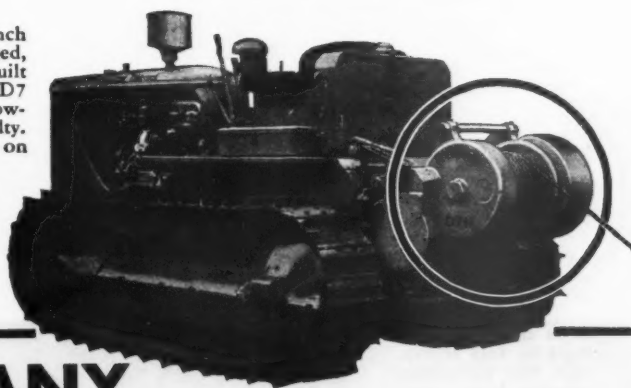


4 The locomotive was finally raised to level ground, rotated parallel to right-of-way, and rolled over on its wheels. Job was completed during bitter cold and stormy weather.



5 This HYSTER D7N Towing Winch was the model used on the job. Rugged, direct-gear and reversible, it's built strong to utilize the "Caterpillar" D7 tractor's immense power. Tough towing and hoisting jobs are its specialty. Write for complete specifications on HYSTER Winches.

**Sold and serviced by
"Caterpillar"
dealers everywhere**



HYSTER COMPANY

2998 N. E. Clackamas Street
PORTLAND 8, OREGON

1898 North Adams Street
PEORIA 1, ILLINOIS

WORLD'S LARGEST MANUFACTURERS OF TRACTOR HOISTS AND WINCHES

California Produce Flown to New York

WITHIN 48 hours from the time they are picked in California fields, fresh fruit and vegetables are now being served on New York dinner tables.

Of course, this is true only over the week ends when Eastbound air traffic is light, and, until the end of the war, only during a 90-day test period. But just as soon as the air transport business can get back to peacetime normalcy it will be the regular procedure from then on.

The innovation in the air cargo and produce trades is the direct result of the determination of the Ralph E. Myers Company of Salinas, California which is pioneering the field to reach the Eastern markets in the shortest possible time. Though the Salinas firm made its first test in air freight shipment when it sent a plane load of iceberg lettuce from Salinas to New York last August 22, the regular weekly schedule of shipments begun on July 1 marks the first over-all test of sending airborne fruit and vegetables to market.

Shipments consist of 72,000 pounds a week during the 12-week period from Salinas and El Centro, California to such eastern centers as New York, Philadelphia and Boston.

Planes used include a Consolidated Vultee 104 cargo plane, which will make its debut in domestic transport during the period, and Douglas DC-3's. The former carries a payload of 18,500 pounds and the latter one of 6,500.

But the job isn't one solely of growing the produce, picking it and finding the planes to transport it. Equally important is the job of packaging.

For the job of shipping asparagus, for example, a special wire-bound crate has been designed and put into production for airfreight use.

Instead of being of the usual rotary type, the new asparagus crate is pyramidal in shape to permit easy storage and conservation of space.

In order to save on weight, the new crate tips the scales at only 2½ pounds. Bound with the three 15-gauge galvanized wires that are stapled in place, and requiring nails only for the reinforcing cleats, the new crate makes a saving of roughly 2 pounds under the wood-nailed variety.

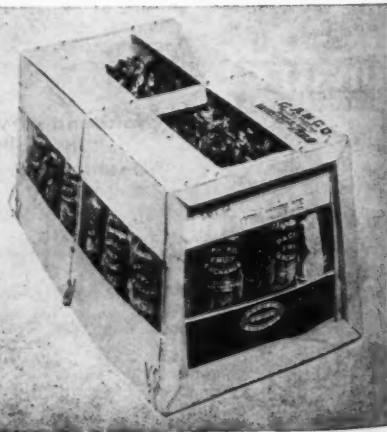
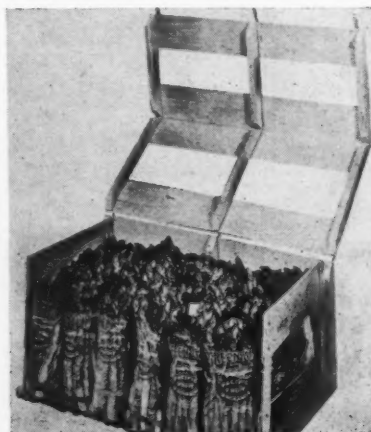
Part of the saving has also been effected through having the asparagus butts trimmed to a 7 inch length rather than the former 9 inches. In the new container exactly 2 dozen 1 pound packages are held. Each bunch is wrapped in printed parchment with a cellophane window or in printed parchment entirely.

As a means of improving both sales appeal and facility in handling in the retail market, the crate is so constructed that the front side can be unfastened and folded back in one section to expose the contents to the customer just as they were packed in California before being airborne.

Ease in handling is further enhanced through the fact that the crates arrive at the shipper's stacked flat, thus presenting a handling problem that is reduced to the minimum. The whole thing is so simply designed that the problem of assembling it involves only a few motions with nailing required only for the reinforcing cleats.

Use of the new crate with its savings in weight and space is expected to form a not inconsiderable factor in transportation of fruits and produce by air. It is not the definite step, however, in the eyes of either the Ralph E. Myers Company or the California Barrel Company which designed the crate. Both firms are continuing experiments to develop even better means of packaging for air transport.

• Design of crate is such that New Yorkers can buy their asparagus without its having been touched since packaging in Salinas. The pyramidal crate facilitates storage and conservation of space in its cross-continent flight by fast planes. Thus the packaging industry keeps pace with developments in agricultural marketing by air transport.



IT PAYS TO ADVERTISE

The Los Angeles Chamber of Commerce has issued a circular reporting that Los Angeles County is:

Second largest war production center in the United States.

Greatest aircraft production center in the United States.

Second largest center for production of tires, tubes.

Second largest center for automobile assembly.

Largest motion picture production center.

Largest center for production of oil tools and oil field equipment.

Third largest center for petroleum refining.

Third largest center for food processing.

Fourth largest center in furniture manufacturing.

Second only to New York in dollar volume of apparel manufacturing.

Largest sportswear manufacturing center in world.

Largest educational center on the Pacific Coast.

The Los Angeles metropolitan area is the third largest in the United States, with the third largest retail market in the nation.

Los Angeles County, synonymous with the Los Angeles metropolitan area, ranks first in farm production among all the counties of the United States.

Los Angeles, with a population of one million eight hundred thousand, is the fourth largest city in the United States.

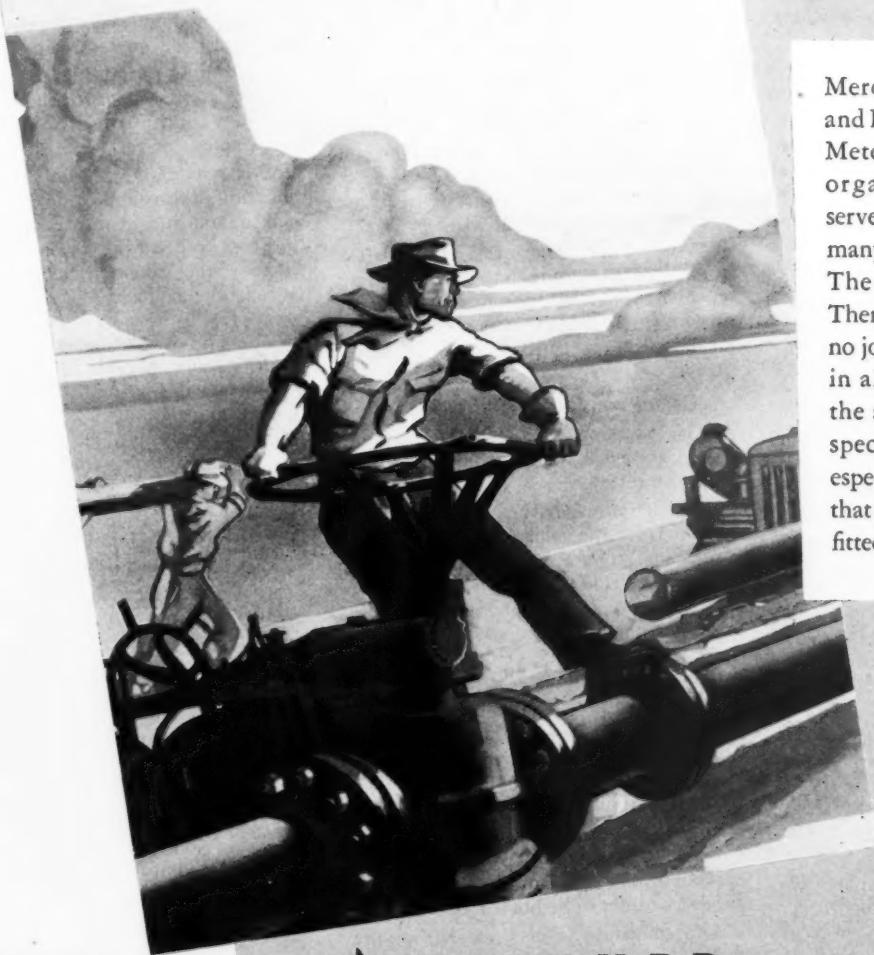
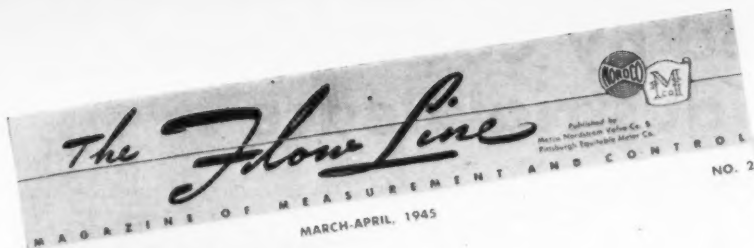
Los Angeles County pays approximately 1/30 of the nation's tax bill.

Los Angeles area pays approximately 50% of the total California tax bill.

Tree Thinning Ups Water Supply

A method of increasing the water supply by cutting trees is being developed by the Rocky Mountain Region Forest and Range Experiment Station, at Fort Collins in Colorado.

The experiments are aimed at thinning out the trees in a given area sufficiently so that very little snow stays in them to evaporate directly into the air without ever touching the earth. At the same time, however, the trees must be kept thick enough so that the sun won't melt the snow on the ground before the spring thaw.



Merco Nordstrom Valve and Pittsburgh Equitable Meter Company's house organ, *The Flow Line*, serves to illustrate one of many services rendered by The McCarty Company. There is no job too little, no job too big. Advertising in all its phases is under the strict surveillance of specialists—men who are especially trained to handle that type of advertising best fitted to your product.

→ **PLANNED**
 → **PREPARED**
 → **PLACED BY**

To help care for the needs of their ever growing clientele, The McCarty Company is proud to announce the opening of its new Dallas office. Now, four strategically located offices are equipped and ready to administer your advertising needs. A call involves no obligation.

THE McCARTY COMPANY

A Complete Industrial Advertising Service Since 1919

LOS ANGELES 15, BENDIX BUILDING • SAN FRANCISCO 5, RIALTO BUILDING
 PITTSBURGH 19, KOPPERS BUILDING • DALLAS 1, 1311 PRAETORIAN BUILDING

MEMBER...AMERICAN ASSOCIATION OF ADVERTISING AGENCIES

Methods Used By Coast Firms To Obtain Industrial Peace . . .

STUDIES of methods used by five firms of the California Metals Trades Association which have been particularly successful in promoting the cause of industrial peace reveal two chief points in common:

1. A sincere effort has been made to show organized labor that management has peaceful intentions.

2. Each plant makes a substantial effort to share information with its employees.

Following are the results of the studies of the individual firms:

Duart Mfg. Company, Ltd.

Foreman are chosen purely on their ability to do the job. "We don't consider whether we like them or they like us or whether they are born leaders." Foremen retain their union membership. Where possible, shop stewards are made foremen.

Prestige of foremen is increased by giving them very special privileges. They can take time off at their own discretion without suffering pay deduction. They are paid when sick. They share in the administration of the company. All these privileges are also extended to shop stewards.

About every ten days, the shop superintendent holds a meeting with all foremen and shop stewards at which current problems of safety, production and discipline are discussed. Management shares information freely. A foreman who has let a job cost too much, or has used bad judgment in disciplining an employee, or who has had an accident in his department has to review the circumstances in front of other foremen.

The company has a pension plan. The shop superintendent keeps his door open at all times, not only to foremen but to individual employees. Foremen are encouraged to discuss all disciplinary moves with him.

W. R. Ames & Company

This company with 240 employees has a plan similar to that used by Duart. All foremen are chosen for ability at their jobs. "They must be mechanics first and foremost, they can learn to be diplomats afterwards."

The general manager and the foremen have dinner together once a month. Safety, production, finances and personnel are discussed. The company believes in complete frankness about finances. "Withhold nothing—the more you can tell, the better off you are—sharing information means that they believe you when you tell them you have to be careful over a certain job because of a narrow profit margin." Cost of

specific jobs is frequently reshaped at dinner.

No definite policy is followed with regard to shop stewards. Some have been asked to these dinners, some have not.

The company takes considerable care of the feelings of all workers. The general manager's door remains open to everybody. At every opportunity it is stressed that foremen are responsible for the happiness of the men under them. If anybody is fired, the company takes the point of view that the foreman was partly to blame.

A very active labor-management safety committee has brought the accident rate down to about half the national average in two years. It believes in showing films on accident preventions and feels that a strong safety policy brings goodwill.

Company 3, Name Not Disclosed

This company employing 150 men, has a more conservative plan than either of the two just reviewed.

Foremen are usually but not invariably chosen from the ranks. Employees when selected as foremen are requested to resign or get demits from their unions.

The foremen and superintendents hold a dinner once a month as guests of the company. Usually the personnel manager attends. Discussion at these meetings is confined to a subject which has been selected in advance.

Full freedom of expression in roundtable discussion is secured and the foremen take turns in presiding at these meetings.

In this plan the foremen have the power of firing and, right or wrong, will be backed by management though foremen are coached not to be hotheaded.

The company believes in sharing information with employees and does so through a mimeographed house organ, and by distribution of the company's an-

nual president's report and financial statement.

Western Gear Works, Los Angeles

1. Information is shared with employees through a good house organ.

2. All disputes and grievances are dealt with by a labor-management body. The machinery for this is written into the company's union contract which provides for:

A. A Senior Labor Relations Committee consisting of three representatives of management and three representatives of labor (business agent and two employees of the company who are union members). "It is the function of the Senior Labor Relations Committee to discuss and review matters pertaining to wages, hours and working conditions and to settle all disputes and grievances which may arise between the company and the union." This committee also hears, on appeal, minor grievances which have not been settled further down the line.

B. A standardized procedure for dealing with grievances as follows:

- a. Employee or shop committeemen try to settle matter with foreman.
- b. If this fails, written grievance is presented by shop steward to Industrial Relations Office.
- c. If this fails, the case is referred to a labor relations sub-committee (three union members who are employees of the company and three representatives of the company).
- d. If this fails, the case goes to the Senior Labor Relations Committee.

E. D. Bullard and Company

Information is shared with employees through a mimeographed house organ.

Grievances and dissatisfactions are discussed at a monthly meeting between Mr. Bullard, the shop steward and elected representatives of the employees in each department. The meeting is held in Mr. Bullard's office at 10:30 in the morning. Representatives of employees can bring up any matters or ask any questions they like.

Washington Contact For Western States Council

A permanent organization of the Washington, D. C., representatives of Western chambers of commerce has been formed to act as a Washington branch of the Western States Council.

J. J. Underwood, manager of the Washington office of the Seattle Chamber, was elected president of the group and John Costello, Washington representative of the Los Angeles Chamber, secretary.

Metal Trades Group Publishes Booklet

Calling attention to the fact that California during the war years has changed from a largely agricultural state to one with a highly industrialized economy, the California Metal Trades Association has recently published a booklet, "Let's Get Together" as a plea for industrial unity.

The organization, now over 50 years old, urges the need for 100 per cent cooperation between companies engaged in the metal trades. With the industrial plant six times greater than ever before, the question of the change-over to peacetime operation will require the working together of all those in the business, the booklet points out.

NOW

Get the Right Varnish for that Insulating Job

Quickly-Easily-Accurately...



IT'S FREE!

Ask your G-E Distributor for it

SEND THIS COUPON NOW TO
YOUR LOCAL G-E MERCHANDISE DISTRIBUTOR

Gentlemen:

Please send me a G-E Insulating Varnish Selector as offered in *Western Industry*.

Name.....

Title.....

Company.....

Address.....

A quick glance at this handy, easy-to-use Varnish Selector gives you all the facts on 7 outstanding insulating varnishes — characteristics, applications, baking and drying time, base, thinner, viscosity—everything you want to know. Ask your local G-E Merchandise Distributor for one and you'll always have this essential information at your finger tips, ready to use. A list of G-E Distributors is available on request from Section RIM252-13, Resin and Insulation Materials Division, General Electric Company, Schenectady 5, New York.

GENERAL  ELECTRIC

Surplus Property Board Questioned

WASHINGTON, D. C.—If you think the tempo of war has speeded up on your side of the Continent in the past months you apparently have only experienced the earlier phases of the real thing. The real movement from Europe apparently will grow with the reconditioning of shipping taken over from the enemies; and the climax of the present phase out on the Pacific Coast is roughly expected anywhere between next December and next Spring.



At the same time Manila should be approaching the point when it will be the springboard for the grand smash, much as England was the jumping off place for the European campaign. The picture we get here is that there were only four undamaged buildings left in Manila when McArthur took the city. It is from this raw foundation the armed services are creating the Victory Base.

You have heard and read reams about the Generals who collectively made a war in Europe that is comparable to the feats of Alexander and Caesar. But you have probably not heard much about General George C. Marshall, the non-West Point Chief of Staff, the first to wage a truly global war. At home and abroad we have had very great generals, but the key to the greatest of the generals is the greater general at the center who put them where they were able to do their jobs.

It is sound sense to keep some thought about these very true and sincere patriots of the Marshall type in mind these days when you collide with the petty high priests of red tape out there in the West. Fortunately, however, there are millions of men and women in this country, even in plain clothes and obscure places, who have every whit as much patriotism even if they do not have the genius or the opportunity to demonstrate their sound sense in a dramatic manner.

There is a man from the West here in one of the war agencies who has been working day and night for the past three years. He lost his only son in an earlier battle in the Pacific. He has done an outstanding job here but he wishes to be nameless. He suggests that it may be possible permanently to solve some of our problems of bureaucracy by bringing shifts of business men and professional men into Government for limited periods. On the whole, only those who are competent and

By ARNOLD KRUCKMAN

distinguished would be chosen. It would set apart a man in his own community, or business, or calling; and it would make the Government truly a thing of the people.

It seems almost inevitable that the spotlight again will be focused on Lt. Col. Edward Heller, a member of the Surplus Property Board. Col. Heller is known here widely as a man who came into Government despite the fact that he is a nabob from San Francisco who owns \$25,000,000. He is credited with some of the political astuteness of the rest of the Hellman family, of which he is a son-in-law, as well as with a predilection for the rigid forms and procedures of the Army. Personally, a very pleasant dinner companion, he loves good books. But in his operations in the Surplus Property Board he has run smash into the militant, vigorous liberalism of former Senator Guy M. Gillette, of Iowa, who apparently expected that as chairman of the Surplus Property Board his leadership would prevail. The other member of the Board, former Gov. Robert A. Hurley, is a rather solidly imposing Irish-American politician, credited with stringing along with Col. Heller. Senator Gillette has made no secret of the fact, among friends, that the banker-soldier-politico combination, inevitably regular and conservative, stopped him whenever he tried to get started.

The history of the Surplus Property Board since its appointment has been much like the history of the TVA. It was conceived in compromise and born in politics. Until it acquired an Administrator named Alfred E. Howse, also a Colonel, there was no real business man in the upper stratas of the organization.

W. Stewart Symington, a business man from St. Louis, has been nominated to take Senator Gillette's place. The discussion in the Senate over Symington's confirmation is expected to precipitate an investigation into the whole Surplus Property Board organization and its powers. The Board has failed to make the stated report required by law, which prompted Senator O'Mahoney, of Wyoming, to file Part 3 of Report No. 199, formulated by the Senate Military Affairs Committee on War Contracts and the Special Senate Committee on Postwar Economic Policy and Planning.

This Senate report is definitely a polite but unequivocal reproof for Col. Heller and his associates, pointing out that the muddle has delayed the Congress in mak-

ing proper plans for the disposal of war plants, specifically the iron and steel plants at Geneva and at Fontana. "If plants become surplus before the submission of the required reports (from the Surplus Property Board), the development of comprehensive industry-by-industry disposal plans will be endangered," is the flat declaration of the Senate report.

The Senate report points out that overall ingot capacity in 11 Western States since 1938 has increased 130 per cent, and that West of the Rocky Mountains the increase has been twice as much.

The Senate Committee also formally directs the Surplus Property Board to answer eight questions. It asks that the Board state what disposal policy can achieve fuller utilization of productive steel capacity; what disposal policy will be able to overcome any existing trade practices which have prevented fuller utilization; what the disposal policy shall be if present capacity exceeds the probable postwar demand for steel; what shall the policy be if some Government-owned plants can produce steel at a lower-cost than industry-owned plants; what should be done if the Government-owned plants can produce cheaper steel only after plant alterations; what policy will most effectively carry out the mandate of the Surplus Property Act to discourage monopolistic practices; to foster development of new independent enterprise; and to strengthen and preserve the competitive position of small business concerns. Another question requires definition of disposal policy in particular marketing areas where expansion of steel-consuming industries are dependent upon assurance of availability of steel products at low prices; the final question asks the Board to define the appropriate instrument of disposal for each particular property.

The report declares in peacetime the nation's steel industry has operated only at 50 per cent of capacity. It demands the causes be revealed. It asks to be informed

One of the best-informed writers at the Nation's Capital, Arnold Kruckman, presents each month authoritative comments on political developments and their practical application to industry of the West. Any reader who wishes additional information may write to him directly, using business letterhead, at 1120 Vermont Avenue, N.W., Washington, D.C. Inquiries will be answered free of charge. You also are invited to contact him personally in Washington. Copies of pending congressional bills may also be obtained free of charge.



around the world

Protection

The war has taught us a great many things about materials handling that will be translated into more effective and economical shipping by train, truck, boat and air—for domestic or export trade.

SIGNODE SERVICE covers the field from light box strapping to palletized or bundled loads of heavy steel. Each commodity has its own requirements for proper packing. These we know, and pass on to manufacturers in the form of low product protection costs and, in many instances, reduced freight rates.

A survey of your shipping procedure is now in order. . . your Signode representative will be glad to consult. Some of his suggestions may save you money—use his services.



SIGNODE
STEEL STRAPPING CO.



SIGNODE STEEL STRAPPING CO.

2615 N. Western Ave., Chicago 47, Illinois
San Francisco 7, Calif.: 458 Bryant Street
Los Angeles, Calif.: 441 Seaton
Seattle 4, Wash.: 1021 4th Ave.

about the types of steel for domestic consumption, for exports, and in particular marketing areas. "The securing of this information is the joint responsibility of the Surplus Property Board and the Defense Plant Corporation. On the basis of such information, it should be possible to formulate a disposal plan. The plan must not be confined to a mere listing of bids which may have been received."

Some weeks after this report was published the former Attorney General, Francis Biddle, made to Congress the report required from the Department of Justice on the disposition of surplus property. He suggests that "successful continuous steel-making in the West affords the soundest possible 'basis' for future industrial expansion in the area." His survey revealed that 20 per cent of all U. S. tin plate consumption is in the West, which was supplied by the East before the war. He warns, however, that the policies of the purchasers of the Geneva plant may well be the determining factor in the future of the Western steel industry.

The former attorney general also charges the U. S. tin plate industry is 95 per cent controlled by eight integrated steel producing companies, entire production of which is used in the manufacture of cans and other containers. He estimates post-war Western plate consumption at 500,000

tons annually, half of which could be supplied by Western mills. Biddle repeatedly emphasized that demand for tin plate is increasing substantially each year. Like the Senate Committee he stresses that the bulk of Western steel production should be light flat rolled products—sheets, strip, and tin plate—and regards continuous production at Geneva, as well as at Fontana, as exceedingly promising.

Even on the basis of 1937 demand for steel, continuous production in the West is considered justified if independent operators are not saddled with excessive investment costs. Biddle states the cost study of the Geneva steel plant, which has been under way for months by engineers employed by the Defense Plant Corporation, will be completed by October, and he apparently feels it will amply justify his optimism about Western steel production because he urges the results of the study be made available on a widespread basis.

The situation outlined probably is the reason the light metals enterprise in the Northwest is making slow progress. Smaller enterprises do not seem to have much trouble in negotiating plant leases; a recent transaction involving facilities in the Northwest went through smoothly. Light metals obviously would be founded on the abundant cheap power from the Columbia River.

There are people in Washington who

winced when they hear the word Columbia. They will tell you here about a group of business men who raised \$6,000,000 in the West to launch an enterprise which would be of extraordinary regional benefit with long-range potentials. They must deal with the Surplus Property Board. The plants they want are idle, and the facilities and privileges they wish to use to make their program effective have been authorized by law. But they have not been able to get even to first base, unless the recent visit of the President to the Coast has enabled them to find the solvent.

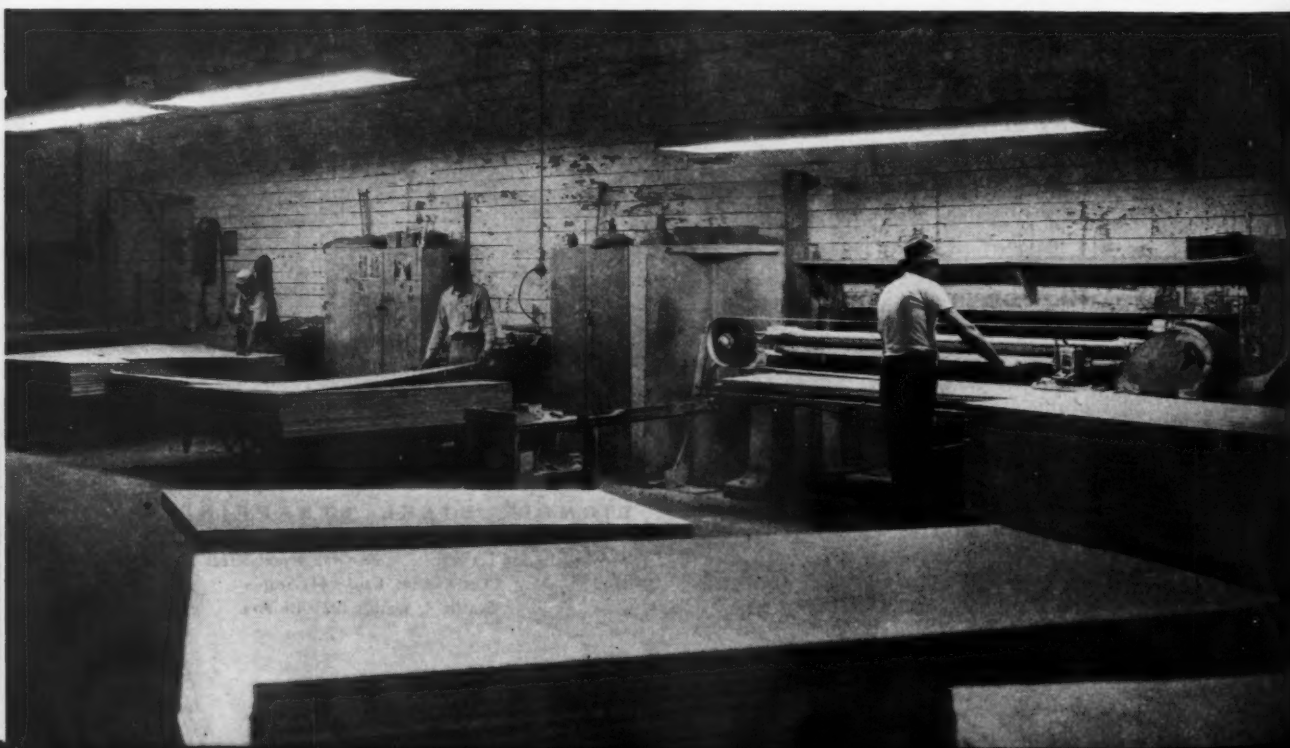
By the time this is published Congressman Harry R. Sheppard, of California, will be back from an airplane junket around the world. It is becoming a sign of your utter obscurity if the Army or the Navy has not flown you somewhere on a war excursion.

At least two committees of Congress are scheduled to fly to Alaska this summer. One is headed by Congressman Lyle H. Boren of Oklahoma. A third committee will fly West to find out the possibilities of developing more pulp and paper. Congressman Clarence J. Brown, of Ohio, a publisher, leads the group.

You will also see Jack Underwood out there this summer, the Washington veteran Chamber of Commerce man for Seattle. Jack plans to ramble from the Galapagos to Bering Sea, if no one stops him.

*** Need for maximum efficiency in firms engaged in vital war work has resulted in the raising of light levels in critical work areas of plants throughout the country to a point almost undreamed-of five or six years ago. Typical of this is the scene above in a unit of the United States Plywood Corporation's plant engaged in 100 per cent war work at Seattle, Washington, in which spread lighter units have been spotted wherever need for the best possible lighting has been felt. Recognition of the effect of this kind of lighting is increasing the efficiency of workers, coupled with the fact that WPB has recently removed fluorescent lighting equipment from the priority list, has resulted in increased orders on manufacturers. Production of units for firms engaged in non-vital war work, however, will not take place until completion of the program for radar transformers clears the way for civilian production of these units.**

—Photo courtesy Electrical Products, Consolidated



AN ANNOUNCEMENT and an INVITATION TO INDUSTRIES IN THE WEST

Our business is MANUFACTURING METAL TUBING. This plant began operations in 1943 and production has continued without interruption.

Present manufacture is confined to STEEL TUBING to many specifications. The size range is from 5/16" to 2-1/2" O.D.

Visitors Are Welcome

This is a cordial invitation to come and see modern equipment in operation; on a 16 acre tract in an ideal spot in Southern California.



PACIFIC TUBE COMPANY *The Tube Mill of the West*

5710 SMITHWAY STREET
LOS ANGELES
ANGELUS 2-2151

WESTERNERS AT WORK...

Arizona

J. S. Hamilton of Warren promoted from assistant to mill superintendent for Shattuck Denn Mining Corporation of Bisbee.

California

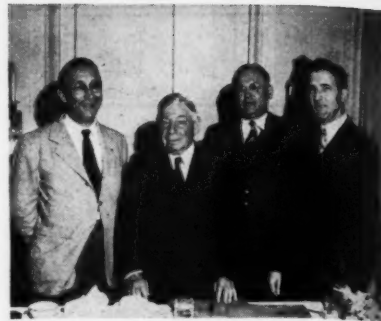
Major Richard I. Bong, ranking ace of the AAF, assigned as assistant representative at Lockheed Aircraft Corporation, Burbank . . . Ray Ellinwood severs his connection as president and general manager of Adel Precision Products Corporation, disclosing plans to personally engage in a new organization bearing his name . . . William I. Beach, North American chief plastics engineer, wins '44 John Wesley Hyatt award . . . Wallace I. Terry, Jr., director of safety for Moore Dry Dock Co., Oakland, appointed Northern California chairman for U. S. Department of Labor's safety committee . . . H. Bimmerman, formerly assistant branch manager for Quaker Oats Co., Sherman, Texas, appointed manager Los Angeles branch . . .

W. F. Boyle, formerly sales manager of the Aviation Turbine division of Westinghouse, and succeeding F. R. Kohnstamm, appointed assistant to vice-president to direct Pacific Coast district office of Baldwin Locomotive Works and the Pelton

Water Wheel Co., San Francisco headquarters . . . George C. Ford takes over direction of management of Vultee Field following resignation of Carl W. Coslow, division manager . . . J. F. Johannsen, export manager of the Hyster Company, named member of export advisory committee to the foreign economic administration at Washington, D. C. . . .

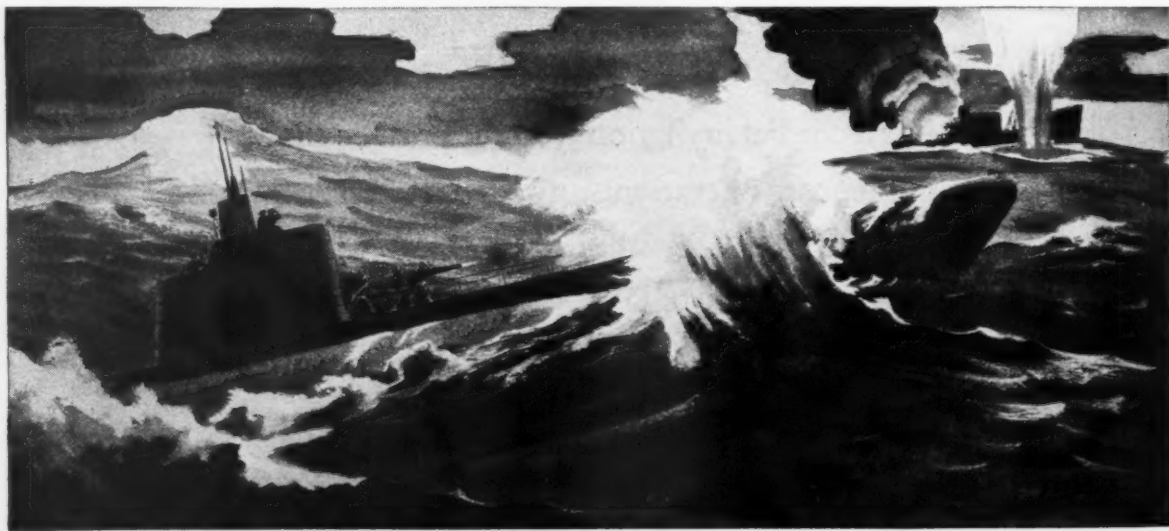
Charles A. Butcher, formerly manager of Pacific Coast Manufacturing & Repair Dept. of Westinghouse, Oakland, recently appointed assistant general manager of Crocker-Wheeler Division, Joshua Hendy Iron Works, Ampere, New Jersey . . . Kenneth L. White appointed substitute industry member and assistant to Southern California industry section of Tenth Regional War Labor Board, succeeding R. A. Smardon, Jr., resigned . . . J. E. Holland, manager Pacific Electric Mfg. Corp., San Francisco, named president California Metal Trades Association; P. A. Hoyt of Oliver United Filters, Inc., Oakland, new vice-president; George F. Bont, president California Steel Products Co., re-elected treasurer, and Max F. Lowe as secretary-manager . . .

E. M. Jorgensen, Los Angeles, elected one of vice-presidents of American Steel Warehouse Association . . . E. S. Elkus, Jr., succeeding J. M. Mero, appointed assistant



• Believe it or not, here are Bonneville, Alcoa and private power, all in the same picture, at a dinner given by the Portland Chamber of Commerce for Alcoa officials. From left: Dr. Paul Raver, Bonneville administrator; Arthur V. Davis, chairman, Aluminum Company of America; Paul B. McKee, president, Pacific Power and Light Company; Frank E. McCaslin, president of Portland Chamber and of Oregon Portland Cement Company.

vice-president in charge of finance, Joshua Hendy Iron Works, Sunnyvale . . . Paul J. Schafer made general manager of new firm of Harron, Rickard & McCone Co. of Northern California; S. S. Morton, assistant general manager; James O. Ellison, manager of service and engineering . . . Clarence Small, former manager of Lancaster branch of the Hayward Lumber & Investment Co. appointed manager of the Bakersfield branch . . . J. F. Kinlock, succeeding A. P. Shacklock, appointed man-



PRECISION

A synthetic rubber that surpasses natural rubber in resistance to heat, oils, acids, and other severe industrial conditions—that's Synalite, Pioneer's super-synthetic. • Like the submarine, precision instrument of war, and the plans that bring it to meet its quarry at precisely the place and moment designated, Synalite is the result of precision workmanship—precision in compounding, fabricating and vulcanizing.



ager of Continental Can Company's Oakland plant . . .

E. E. Huddleson, Honor Brand Frosted Foods, Oakland, named first vice-president of National Association of Frozen Food Packers . . . Ernest A. McMillan of San Francisco, replacing Paul R. Porter, resigned, appointed acting director of Shipbuilding Stabilization Division of Office of Labor Production, WPB, and acting chairman of Shipbuilding Stabilization Committee . . . O. J. Ulrich, Pacific Machinery & Tool Steel Co., elected president Pacific Northwest chapter of American Steel Warehouse Association; Harry Wolf of Pacific Steel Warehouse Co., vice-president; H. F. Morrow, Pacific Metal Co., secretary-treasurer; O. J. Ulrich, chapter director . . .

P. H. Hetherton, secretary of the Washington State Planning Council from its beginning until the council's operations were suspended a few months ago, is now western regional representative at San Francisco of the National Council of State Governments, succeeding Perry Taft, who has become associated with TWA in a public relations capacity and will locate in Los Angeles.

Colorado

Knowles Anderson of Haxtun made new manager of Foster Lumber Co. at Paoli . . .

Idaho

Frank H. Mitchell, formerly general superintendent of various mining interests of the Willow Creek Mines, Inc., in Washington and more recently in charge of Sierra Zinc operations, named general manager of the Whitelief Mining Company at Clark Fork, Idaho . . .


Nevada

John C. Kinnear, replacing W. S. Boyd, elected vice-president in charge of Southwestern Division of Kennecott Copper Corporation, McGill, and also elected chairman of Advisory Mining Board of Nevada . . .


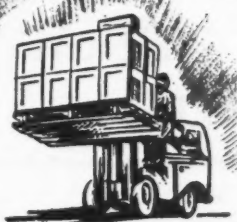

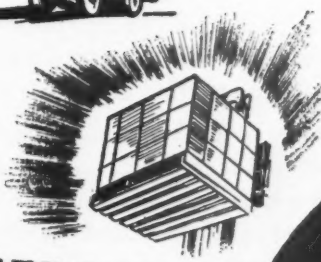
Oregon

Dr. J. Alfred Hall of chemical research branch, U. S. Forest Service, transferred to divisional office in Portland as Pacific Northwest field director in charge of research dealing particularly with wood waste products . . . Thomas C. Young president of Pacific Roofing Co., Portland, and head of Columbia Empire Industries, Inc., chosen by OPA to serve on asphalt and tarred roofing products Western Area Advisory Committee . . .

L. R. Husa succeeds the late George Rogers as president of Portland's pioneer



24 PAGES pictorially presented, showing CLARK Fork Trucks and pallet methods in 32 different types of materials handling operations. Contains illustrations and specifications of different pallet designs. Yours for the asking—mail the coupon NOW!

CLARK TRUCTRATOR DIVISION
1038 JAMES STREET, BATTLE CREEK, MICHIGAN

I would like a copy of your book "CLARK BOOK ON PALLETS"

Name.....

Company.....

Address.....

City.....Zone.....State.....

WESTERNERS (Cont'd from Page 57)

Albina Engine & Machine Works . . . Al Bauer, assistant general manager, Oregon Shipbuilding Corporation, also assumes same title and duties for Kaiser Company, Terminal Repair Division, new name for recently purchased ship repair plant of Poole, McGonigle & Jennings at Portland . . .

John E. Comfort of Pacific Metal Co. elected annual chairman for Oregon Chapter, American Society for Metals; H. H. Hewitt, Jr., Steel Tank & Pipe Co., elected vice-chairman; and Rex E. DeLong, Pacific Machinery & Tool Steel Co., secretary-treasurer. Members elected to executive committee were: S. H. Graf, Oregon

State College; N. L. Peck, Pacific Metal Co.; W. J. Ulrich, Pacific Machinery & Tool Steel Co.; Ray E. Neils, Schmitt Steel Co.; G. E. Healy, Portland Gas & Coke Co., and C. G. Chisholm, Columbia Steel Company.

Utah

Henry D. Moyle of Salt Lake City, newly elected president of Inland Empire Refineries, Spokane, and K. W. Yeats, Salt Lake, elected vice-president . . . Claude P. Heiner, vice-president Utah Fuel Co., elected president, and A. B. Foulger, general manager Lion Coal Corp. elected vice-president of Utah Coal Operators Association . . . L. D. Arnett, Castlegate, and

Sydney A. Dobbs, Price, appointed district coal mine inspectors in reorganization of industrial commission's inspection division.

Washington

Ladner V. Ross, manager of commercial and industrial sales for The Washington Water Power Co., Spokane, takes on new duties as manager of industrial development. . . .

Charles Mercer elected chairman of Inland Empire chapter American Society for Metals . . . Thos. J. Bannan, president Western Gear Works, Seattle, elected annual vice-president American Gear Manufacturers Association . . . Paul Isaacson, president, Young Iron Works, Seattle, and Ted Isaacson, vice-president, Isaacson Iron Works, Seattle, named to board of directors of Isaacson Company; C. Harold Blomgren elected treasurer; Harry D. Larson appointed manager covering sales, service and development, Tractor Equipment Division; and George S. Allen, manager of mechanical engineering. . . .

Robert R. McKean, manager Columbia Empire Industries, Inc., H. L. Corbett of Corbett Investment Co., and Jerry Weaver of United Metal Trades Council, placed on 12th regional War Labor Board, Seattle.

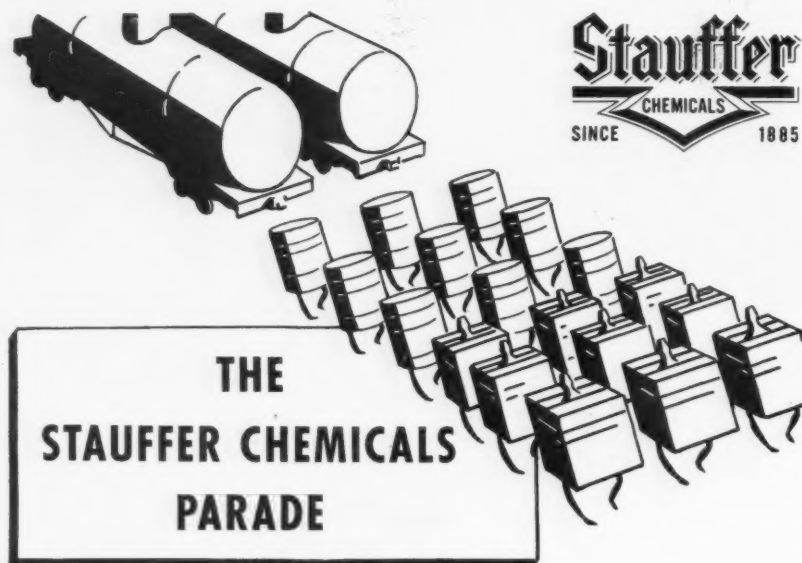
Eric A. Johnston of Spokane elected vice-president and director of Olympic Steamship Co., Inc., Seattle . . . John L. Locke, secretary and general manager Fisher Flouring Mills, Seattle, and chairman of the Chambers Publicity Committee elected president of the North Pacific Miller's Association. . . .

John D. Ritchie, succeeding J. D. Long, named chief of research department of Douglas Fir Plywood Association, Tacoma . . . Walter A. Toly, production manager of Columbia Electrical & Manufacturing Co., Spokane, becomes vice-president in charge of production.

Vacation Policy Upheld By Board

An appeal by 12 Denver wholesale and retail bakeries against the 1 after 1 and 2 after 5 vacation ruling of the Regional War Labor Board has been denied on all counts by the national board. The bakers also attempted to upset the regional board's order that working time in the bakery industry shall be on what compares to the mining industry's "portal to portal" pay basis.

The policy of the regional board and of the national board is that contract provisions which permit small periods of uncompensated time are likely to be irritants which may give rise to labor disputes. Where such provisions can be eliminated without inflationary consequences, it is good practice to strike them from agreements, according to the national board's ruling.



**THE
STAUFFER CHEMICALS
PARADE**

Stauffer
CHEMICALS
SINCE 1885

Stauffer Chemicals are still in step with the progress of the West! For over 60 years Stauffer has been developing and supplying needed chemicals to western industry.

Three times Stauffer has converted production to help push a war to a successful conclusion, and each time new chemicals were added to our list which in turn gave wider coverage to a peaceful, greater industrial West.

Soon there will be available to peacetime users the new chemicals produced during this war. Our increased facilities will be placed at your service for your post-war expansion.

Let the parade of Stauffer chemicals go to work for you.

Stauffer Chemical Company

SAN FRANCISCO NORTH PORTLAND LOS ANGELES

CHEMICALS FOR INDUSTRY AND AGRICULTURE

Ordinance Cuts Only Slight

THOUGH the meeting of Army Ordnance officials and those from other government officials in St. Louis on June 24 resulted in sweeping cuts for the rest of the country, the ordnance picture in the West remains virtually unchanged.

While shell production lines are being moved from eastern plants to be set up at Denver for the production of 8-in. and 90 mm. shells, they will not go into production unless a sudden change in requirements is demanded.

Terminations throughout the area from June 15 to August 1 as so far announced are:

Bowen and McLaughlin, Phoenix, Arizona; remanufacture of half tracks; 400 workers to be released. June 21.

U. S. Flare Corp., San Fernando, Calif.; signal aircraft; 200 workers to be released. July 1.

Harris Mfg. Co., Stockton; mounting cargo bodies on 2½-ton trucks and processing and boxing for overseas shipment, partial termination; no estimate on released workers. July 2.

Bellingham Iron Works, Bellingham, Wash.; remanufacture of 1½-ton, 4 by 4 trucks; 325 workers to be absorbed in plant. July 2.

Moore Equipment Company, Modesto, Calif.; boxing ¼-ton trailers; 150 workers diverted in plant. July 6.

Columbia Electric Co., Spokane, Wash.; fin assemblies cutback; 15 workers estimated to be released. July 10.

Electrical Products Consolidated, Seattle, Wash.; fin assembly, cutback; workers released at rate of 8 a day. July 10.

Industrial Aircraft, Los Angeles, Calif.; parts; 88 workers estimated to be released. July 10.

Iron Fireman, Portland, Ore.; bomb tail fuses; 60 estimated to be released. July 10.

Land-Grays Harbor Co., Hoquiam, Wash.; no statement as to contract terminated; 75 workers estimated to be released. August 1.

Reducing Eye Injuries

By having a safety unit visit any department at the Long Beach plant in which a high eye injury rate was experienced, Douglas Aircraft Company not only made sure that the personnel were fitted with the proper kind of glasses, but also that they were used. For those wearing corrective lenses a service was arranged enabling them to buy specially ground safety glasses according to prescription. Services of an optometrist who visited the plant weekly were obtainable, and the glasses were furnished at a nominal cost.



**MAKES EVERY
INCH OF STORAGE
SPACE HANDY...**



**IT'S THE
HANDBELT
in Action**

Get complete information today—
write for Handibelt Bulletin No. W1-85

STANDARD CONVEYOR CO.

General Offices: North St. Paul 9, Minn.
Sales and Service in Principal Cities

Pacific Factory Branch
ACME EQUIPMENT CO. San Francisco
411 Brannan Street

Pacific Sales Offices:
1401 Santa Fe Ave. Los Angeles

A. F. Comstock Portland, Ore.
1115 N.W. Glisan Spencer Machy. Co.

1718 Broadway Seattle, Wash.
Fryer-Knowles

STANDARD
Gravity and Power
CONVEYORS

Hard-to-get-at spaces are easily reached with the Handibelt—the all purpose incline, decline or horizontal portable belt conveyor. Design allows the carrier belt to be horizontal at any height from 18 inches to 42 inches. Can be used as a piler elevating from 10 inches to 6 feet 3 inches or from 30 inches to 7 feet 6 inches, or any angle or degree between those extremes. Either end may be raised or lowered. Handles boxes, cartons, crates, bags, and other packages up to 100 lbs. Rubber covered belt is free of side rails—commodities wider than 14 inches may be carried.

Weights less than 500 lbs.—easily wheeled about by one person. Equipped with ½ hp. motor—plug it into any ordinary lighting circuit.



**TIERING AND
LIFTING MACHINES**



**PORTABLE
PILERS**



**SPIRAL
CHUTES**



**PNEUMATIC
TUBE SYSTEMS**

REGIONAL REVIEWS

THE WASATCH FRONT

THE SUBMERGED political pressures generated by the impending disposal of the Geneva steel plant are beginning to rise to the surface. Several Utah groups have definite preferences as to a postwar operator but have held their tongues in an effort to keep the issue from getting tangled up in politics and economic ideologies.

First civic and business organization to discard the post of strict neutrality was the

Provo Chamber of Commerce, members of which have a direct and large stake in the future fate of the facility. They came out flatly for the sale or lease to United States Steel Corp., builder and operator of the plant.

The Provo chamber took the position that U. S. Steel is entitled to preference because it did an excellent construction job; has efficiently operated it without profit to the corporation; and has demonstrated that

it is a "good neighbor" through its operation of the Columbia pig iron plant at Ironton.

An unmentioned factor which carries considerable weight with the Provo chamber and other groups is the competitive feature. There is a pronounced feeling that U. S. Steel has a better chance to successfully operate the plant than an independent or a newcomer to the field because they can integrate it with their existing facilities and an established market and marketing organization.

Attorney General Biddle's swan song, in which he urged against lease or sale to U. S. Steel, produced more irritation than anything else in this area.

Two Steel Studies

Two studies on the postwar outlook for the plant have recently been published. One was prepared by Dr. J. R. Mahoney, director of the bureau of business and economic research at the University of Utah, as a supplement to previous studies. The other was issued by the Utah department of publicity and industrial development and prepared by H. W. Prickett, rate consultant for the state agency.

Dr. Mahoney's analysis dealt chiefly with markets; proper locations for such finishing facilities as a tin plate plant and a mill for cold reduction of plate, sheet and strip for various types of fabricating industries; possible competitive effects of Geneva on existing western plants; and broad effects on the western economy.

He concludes that Geneva can and should be made largely complementary rather than competitive with existing facilities and maintains that its stimulative effect on fabricating industries will more than offset any adverse effects its operation might have on these existing plants.

Geneva Basing Point

Some of his conclusions:

Geneva should be made a new basing point for steel prices, probably as low as at Gary, Pittsburgh, and Birmingham, and the level of prices on the Pacific Coast should then be reduced to the Geneva base plus freight.

Operation of the plant will provide the basis for an acceleration in the rate of growth of western steel fabrication, and this will in turn improve the conditions for its own operation.

While the Geneva plant probably will lead to some displacement of production in other parts of the country, it will also stimulate new western steel consumption—that it create new markets. Justification for such displacement as does take place rests on the reduction of costs for certain products to western consumers.

"Reduction in price of commodities," he comments, "is fundamental to economic progress . . . Under the philosophy of free enterprise as it has developed in this country, there can be no just reason for per-



MONEY

for the big job ahead

LOANS TO INDUSTRY

- \$ for FINANCING WAR PRODUCTION
- \$ for CONTRACT TERMINATION NEEDS
- \$ for RECONVERSION PURPOSES
- \$ for INCREASED WORKING CAPITAL
- \$ for MACHINERY AND EQUIPMENT
- \$ for PLANT IMPROVEMENTS
- \$ for SEASONAL NEEDS
- \$ for INDUSTRIES LARGE OR SMALL

ANGLO
CALIFORNIA NATIONAL
BANK

HEAD OFFICE: 1 Sansome Street, San Francisco 20
OAKLAND OFFICE: 1560 Broadway, Oakland 12
Other offices in San Francisco, Berkeley, Bakersfield, Chico,
Hanford, Lemoore, Modesto, Red Bluff, Redding, San Jose

Resources over \$400,000,000 • Growing and Building with the West since 1873

Member Federal Reserve System • Member Federal Deposit Insurance Corporation

petuating the generally higher price structure of steel products in the west merely to make it possible for industries in other sections of the country to continue."

Relative Freight Rates

The freight rate study by Mr. Prickett takes the realistic view that it is relative rates from other points, and not merely transportation costs, that will determine the post-war rates from Geneva to Pacific Coast points.

Using I.C.C. cost studies, he concludes that a compensatory rate from Geneva to coast points would be about \$5.50 per ton (as compared to temporary government rates on plate of \$8 to Los Angeles and San Francisco, \$9.50 to Portland and \$10 to Seattle). But on a basis of established rates on steel and other products, he concludes that a non-discriminatory rate should not exceed \$7 per ton on structural, plates, sheets, etc., and \$6.85 on tin plate to all Pacific Coast points.

So far as foreign markets are concerned, he points out that it has been the practice of rail and steamship lines to equalize rates. If this practice is continued Geneva would be given the same rate to Shanghai, China, for example, as Sparrows Point, Md., which is an all-water haul.

Reciprocal Trade Act Disturbing

The non-ferrous metal mining industry was more than a little disturbed by the easy passage of the new reciprocal trade act, carrying authority for duty reductions up to 50 per cent of the rates in effect as of January 1, 1945. Their chief hope now lies in President Harry S. Truman, whose home state of Missouri is an important producer of lead and zinc.

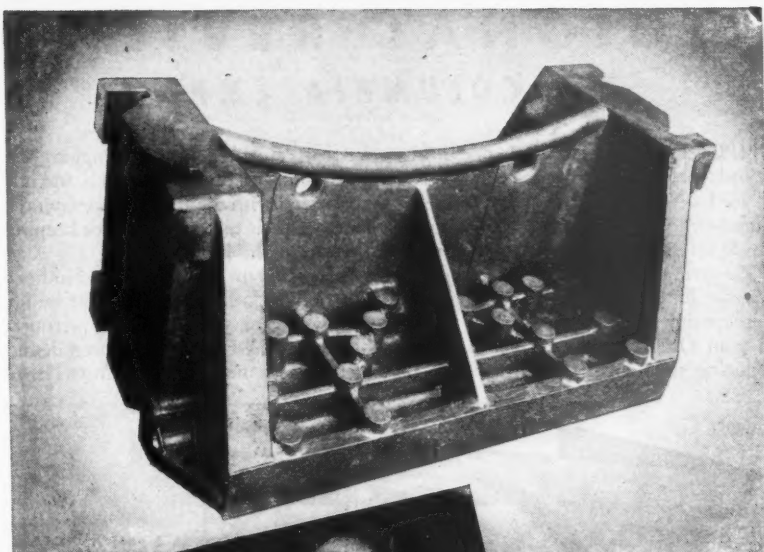
Local mining men insist they cannot compete with Mexican lead production if the tariff rate is further reduced. Some of them think the duty has already been cut to a point which will close some domestic mines when competitive factors again become operative.

Seattle Gets First Die Casting Plant

Seattle has its first die casting plant, established by C. E. Kammeyer, chief procurement agent at Boeing for several years, with Ben Eastman and Roy Anderson, Boeing technicians. It is named Metalcraft Foundry, located at 2926 First Ave. S.

They have taken over the old plant formerly known as the Leach Brothers Foundry, where gray iron window weights were made, and will produce not only die castings but also plaster castings, sand castings and permanent mold castings. Aluminum pig will largely constitute their raw material.

In addition to such activities their service to firms throughout the area will also include advice of a technical nature on such matters as design, heat treating and the complex subject of metal stresses and related matters.



↑ DROP HAMMER
5000 LBS.



← 11-13 CHROME
STAINLESS STEEL
PUMP CASE

SIZE IS NO OBJECTION ... AT WARMAN

Production at WARMAN ranges from castings weighing a pound apiece to those which tip the scales at 10,000 pounds each . . . or more, if need be. Whether small pieces . . . or large, heavy castings . . . the Warman plant is arranged for efficient production in any quantity. As the largest producer of steel castings in the Southwest, Warman has the facilities plus the experience to produce every type of castable steel . . . in any size and quantity required.

Warman produces stainless and heat resistant steels, Navy and A. B. S. and various A. S. T. M. specifications. S. A. E. and special purpose steels.

WARMAN

STEEL CASTING COMPANY

6100 South Boyle Avenue • Los Angeles 11, California

SPECIALISTS ON STEEL CASTINGS FOR OVER 33 YEARS

REGIONAL REVIEWS

COLUMBIA EMPIRE

IMPORTANT events are happening—and preparing to happen—in the Northwest's No. 1 peacetime industry—lumber, logging and allied forest products. While shipyards and airplane plants are preparing to be dimmed in industrial skys, the lumberjacks and "fernchoppers" are preparing for a busy postwar.

Up in Oregon, nation's No. 1 timber producing state, and Washington, No. 2

in that category, mill and logging camp operators with their wholesalers and others connected with the industry are laying this summer their plan of attack for keeping at the top of the list.

Especially in the East, where other industries are keenly after postwar building supply business, the word is frequently heard that the Far West has been denuded of timber to meet the war effort. The idea

is being spread that timber is expendable and has been expended, lumbermen say.

They plan to launch a large-scale consumer advertising campaign to counteract these rumors. The campaign will point out that outstanding timber presently merchantable remains to last many years. And vast tree farms of thousands of acres are spreading throughout the Northwest, growing new trees for tomorrow.

By this method the forest industrialists hope to insure their part in postwar markets even though they will be among the last to be "reconverted" and other industries will have the jump—unless WPB can withstand the growing pressure against holding the line on restrictions of other materials for civilian use. The ad program will be expensive. It may cost \$1 million.

Timber Infestation

Another worry in the timberlands is bug infestation. In the Western pine country of Northern California and Eastern Oregon and Washington bugs have killed more timber in many areas than fire and logging combined.

How to combat this great economic loss has been a headache, especially since operators came to realize they must conserve and grow timber if they are to stay in business and keep the industry's wheels turning.

Down in Southern Clatsop county on the Northern Oregon Coast has just been concluded the nation's biggest experiment in insect control by air. It is also the first experiment with DDT, the miracle insecticide—and it has proven highly satisfactory.

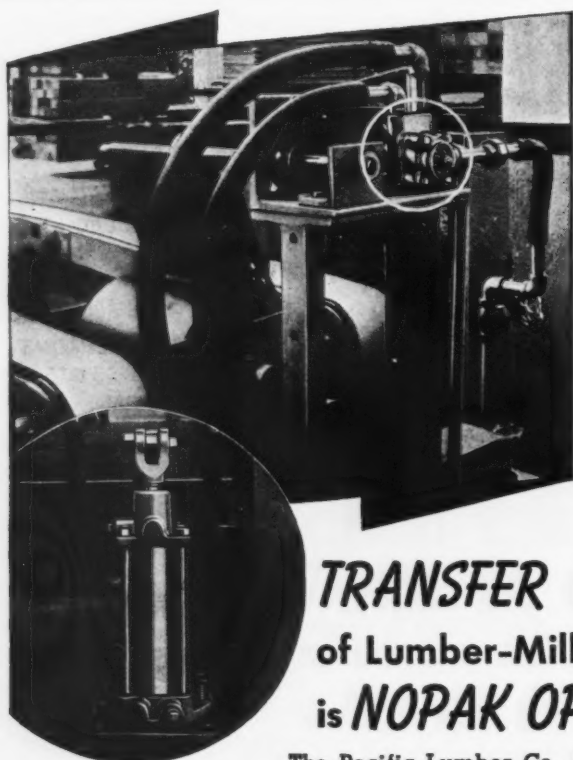
Axel Brandstrom, chief forester for Crown Zellerbach corporation (pulp and paper) is well-pleased with results of spraying by plane over 12,000 acres of steep and rugged coast range hills. Most of it is his company's 118,000 acre tree farm.

Hemlock looper millers, which have defoliated and killed 40 million board feet of timber since 1944, have been brought under control in the area at a cost of only \$3 per acre in the 3,000 acres sprayed with DDT and \$5 per acre in the 9,000 acres with lead arsenate. The government would release only 2,500 pounds of DDT at this time for the experiment.

Pilots, after getting the hang of rough terrain, covered 500 acres a day. Already other operators are beginning to take the idea seriously. It took only two gallons of fish oil and one pound of DDT to cover an entire acre by plane sprayers. If attempted from the ground, that amount would have covered only one small tree and with no better results, entomologists say.

Tourist Boom

Harold B. Say, former director of the Oregon highway department's travel bureau, forecasts a real boom in the tourist



A Model R, NOPAK Foot Valve, with foot pedal replaced by cam and lever arrangement, is operated by impact of boards against kick plate.

NOPAK Model C Air Cylinder raises conveyor belt into position to carry lumber away at right angles to first conveyor.

TRANSFER CORNER of Lumber-Mill Conveyor is NOPAK OPERATED

The Pacific Lumber Co., Scotia, Cal. uses NOPAK Air Cylinders, controlled by NOPAK Valves, for manual and automatic actuation of many units of its extensive conveyor system.

The "transfer corner" pictured is a typical example. As the boards come down the first conveyor belt, they run into a "kick plate" connected to the valve lever by cams and rods. The impact of the boards against the plate operates the valve, actuating the cylinder, which raises the twin conveyor belts above the level of the first belt, to carry the boards off at right angles for further processing.

NOPAK Cylinders operated by Air or Fluid Power, and controlled by NOPAK Valves, are serving in hundreds of material-handling, pulling, pushing, lifting and holding operations . . . in all types of industry. Ask your nearest NOPAK representative for suggestions or write for Illustrated Bulletins.

GALLAND-HENNING
MFG. CO.

2749 S. 31st Street
Milwaukee 7, Wis.

NOPAK

VALVES AND CYLINDERS

DESIGNED for AIR and HYDRAULIC SERVICE

A 4808-1/2 I-R-2-A

industry along the Pacific coast immediately after the war. In Portland on leave from his Washington D. C. navy post, Say forecast bigger postwar business than even Oregon's \$50 per annum before the war. It's a big business and fits hand in hand with lumbering, commercial fishing and small industry in the Coast economy.

Gold Mining Lags

The WPB directive allowing resumption of gold mining after July 1, of interest to many operators east of the Cascade mountains, will actually have little effect, says Ray W. Libbey, director of the Oregon state department of geology and mineral resources.

Most dredge operators have their equipment in running order, but lode miners must have new equipment almost out of the question now with present low priorities granted for that type of work. Probably less than 200 jobs will be created in the state by the resumption of mining—that is a generous estimate. About \$4 million was mined in Oregon the year prior to Pearl Harbor.

Considering resumption of operations now are the Sumpter Valley Dredging company, Porter Brothers Dredging company, Sunshine Mining (Burnt River division) and Crescent Pacific Dredging company. Operations are limited in Oregon to Baker, Jackson, Grant and Josephine counties.

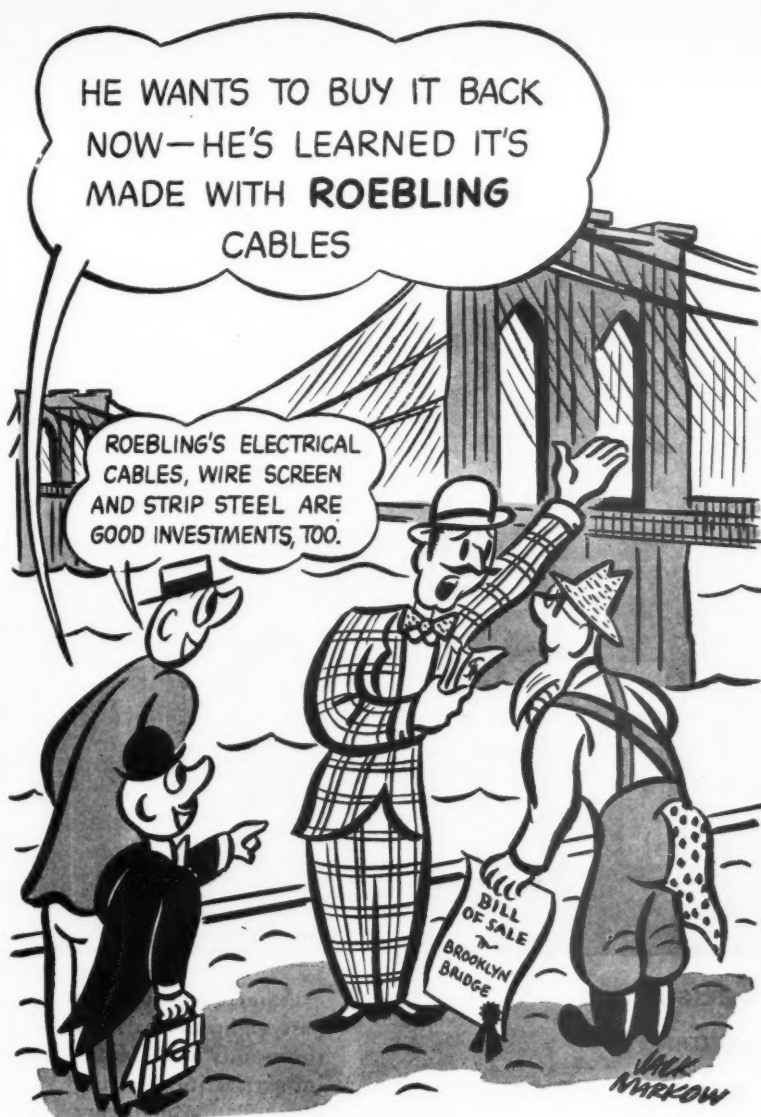
Shipyard Decline

Construction in the shipyards is suffering a "nip" here and there with a gradual nearing of the end—but from the opposite direction ship repair demands are calling for even more manpower than is currently on the job and a full-scale recruitment program has been pushed by WMC.

Portland's wartime employment peak has passed, however, concretely evidenced in the moving of 1,204 family units from the adjacent City of Vanport, world's largest war housing project with its 40,000 population.

The now-vacant units are to be moved to Bremerton at the navy's request to help fill the housing need "if" the navy succeeds in recruiting workers it needs to place Puget Sound ship repair at full capacity. The moving will be done before the end of the year and will be well under way by the end of the summer. In the meantime Portland interests are attempting to secure another drydock to enlarge port facilities for repair.

One of the most recent "nips" at new shipyard construction work was the cutting of ponton building at Oregon Shipbuilding Corporation 1,000 from the original 4,000 contract, leaving 3,000 to be completed, thus bringing the program to a close (estimated) by mid-August. By the end of June the yard had completed 1,100 for the Army.



Roebling produces every major type of wire and wire product... house wire to telephone cable... bridge cable to wire rope... fine filter cloth to heavy grading screen... strip steel and flat wire to round and shaped wire... all Roebling products. All the result of over 100 years of wire specialization. John A. Roebling's Sons Company, of California, San Francisco, Los Angeles, Seattle, Portland.



ROEBLING

PACEMAKER IN WIRE PRODUCTS

WIRE ROPE AND STRAND • FITTINGS • SLINGS • SUSPENSION BRIDGES AND CABLES
 COLD ROLLED STRIP • HIGH AND LOW CARBON ACID AND BASIC OPEN HEARTH STEELS
 AIRCORD, SWAGED TERMINALS AND ASSEMBLIES • AERIAL WIRE ROPE SYSTEMS • ROUND
 AND SHAPED WIRE • ELECTRICAL WIRES AND CABLES • WIRE CLOTH AND NETTING

REGIONAL REVIEWS

TEHACHEPI TO TIJUANA

SOUTHERN California war workers are leaving their jobs at the rate of 15,000 a month against 6,500 a year ago. A goodly percentage of these are women, and the indications are that many of them are not planning to continue work in the manufacturing industries, or are not trying to do so immediately.

A certain percentage of terminations result from death, some from retirement on account of age or health, and some as a

result of Uncle Sam beckoning. Out of the 15,000 only a very small number seek jobs in other war plants.

As a result, retirement from industry came close to off-setting the layoffs made necessary by recent cutbacks. With the rapid increase in ship repair work, plus some new plane contracts, this area is short of war workers. The Navy has been doing all it can to focus attention on its urgent need. This was a factor in making public

the extent of the damage by suicide attacks.

Douglas recently held an "Open House" to attract 1,500 more employees. The transportation industry probably will be the next to be the subject of a big "selling job." A big effort is being made to sell high school youth to spend the vacation helping turn out the weapons of war.

The present picture is not so very far from that envisioned by those who were pessimistic on the situation that would result after V-E Day. The only difference is that the number of those leaving their jobs voluntarily didn't jump right away from the 6,500 figure to the 15,000 figure, but moved up gradually.

Still remaining in this Southern California war worker force are more than 100,000 women. If present indications are to be accepted, approximately 50,000 of them will not compete in the postwar labor market. Between 5 and 10 per cent of the men will be removed by death, and voluntary retirement on account of health or age.

With a need for 40,000 war plant workers, as of the present, plus the 15,000 monthly voluntary quits, it seems pretty evident that Southern California could take whatever may come in the way of cutbacks in the next six months without unemployment existing. This would include the happy event of a termination of the Japanese war at the moment you read this.

Southern California is reconverting, but it is an uneven picture as a result of the shortage of materials. WPB has listed 100 items that are expected to be critically short for the next six months. Many wondered why controls were taken off so early.

WPB's answer is that it felt that the placing of firm orders with various suppliers would give all of those suppliers a more definite knowledge of their market during the coming period, and they could move forward with more definite ideas on production.

Although today's picture is not an easy one for a manufacturer or for his suppliers, there is the fact that every item needed is not scarce. Furthermore, the situation will improve here today, there tomorrow. That will help this firm or that firm, while another firm may find that it is still hampered.

This means that some firms will find themselves well under way when others may still be getting started. The important thing is that all of them can go as far as they individually wish in working out their programs—and as far as they can in carrying them out—without waiting for some special signal.

It is possible that improvement will come more rapidly than many expect. For one thing, the inventories of plants that

Get the Best in

INDUSTRIAL INSULATION

REFRIGERATION

BOILERS

PIPING

HOUSING PROJECTS

RUBBER PLANTS

REFINERIES

INDUSTRIAL PLANTS

SHIPS

FACTORIES

POWER PLANTS

**B
Y
C
A
L
L
I
N
G**

Experience over the past eighteen years on thousands of different industrial jobs calling for insulation involving temperatures of 400°F. below zero to 2600°F. above is at your disposal when you call Marine. Highly skilled workmen, expert engineering and the best Johns-Manville Materials back up the winning Marine combination.

Marine

ENGINEERING & SUPPLY CO.

941 East Second St. • Los Angeles • Michigan 8071

EVERYTHING
IN
INSULATION

are being closed will move toward those firms still in production. It doesn't take so much to "ease" a critical situation in a period of descending production. The bringing of production under a smaller and smaller number of roofs will also result in a smaller total amount of material tied up in inventory. Furthermore, we're fighting "the battle of the stockpile" now, and Southern California can expect that a day will arrive when this will become "the battle of the replacements."

Home building seems to be one field where little relief is expected for another six months. The new measures would permit the building of approximately 18,000 homes during the next six months, or 3,000 a month. It is believed that it will be difficult to reach a rate of more than 2,000 a month unless there is a rapid change in the lumber picture.

This 2,000 estimate is based on the fact that 2,500 was considered a good figure when every government agency trying to get more war workers was pushing, and shoving, and pushing some more to get them housing. There isn't anyone to push, and shove, and push some more now, because the last of the war housing has been cancelled. In view of the fact that this area is still underhoused, and prices are still very high, there has been comment that this would result in the buying and improving of rundown houses. The material to put an old house in attractive condition can be secured without too much difficulty, because a minimum of highly critical materials is required. To some extent, it would be too bad if the Government should act against real estate speculation, because this would curtail the desire to buy and rehabilitate old houses.

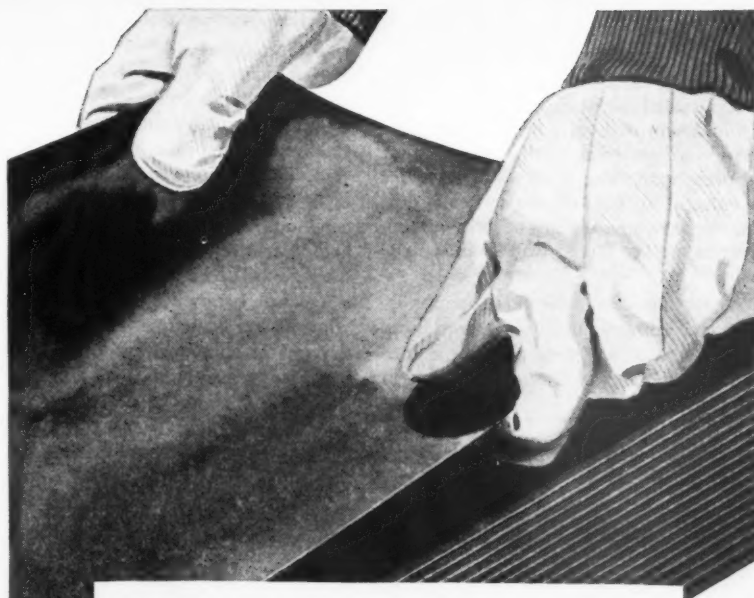
Refrigerator Production

To see the picture of Southern California industry in the postwar era take form, you must follow a lot of day-by-day developments. Rohr Aircraft Corporation, which recently passed into control of International Detrola Corporation of Detroit, announces plans to convert part of its facilities to the production of refrigerators and washing machines by next fall.

Aviation Corporation, controlling unit of Consolidated Vultee, purchases Crosley Corporation, makers of radios, refrigerators, radar equipment, and small automobiles. Bendix announces that it will manufacture for the West in its Southern California plant.

Dresser Industries, already owner of a number of western plants, announces purchase of Security Engineering Co., Inc., of Whittier. Joseph W. Frazer, chairman of the board, Graham-Paige Motor Company, said while here that his firm plans an assembly plant in the West and that the Los

(Continued on page 66)



WHITE GLOVE HANDLING FOR A PRIMA DONNA

There are times when iron and steel — tough, strong, durable, the backbone of industry — must be handled as carefully and gingerly as a prima donna.

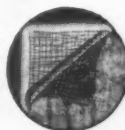
For prima donna it is, when made ready as a base for porcelain enamel . . . so free of dirt, oil, and grease that you can actually see the grain of the metal . . . so temperamental that the moisture from the hand is enough to cause a rust spot . . . so delicate that in the final inspection it is actually handled with white-gloved hands.

Because perfect protection is so essential to a product so spotlessly clean, each year millions of pounds of steel and iron enameling sheets are wrapped in FIBREEN while in transit.

Waterproof and windproof, FIBREEN presents an impenetrable barrier to the infiltration of dust, dirt, and moisture.

Protecting steel sheets is but one of many wrapping, packing, and shipping problems solved by FIBREEN, the tough, sisal-reinforced wrapping paper. For hundreds of manufacturers, it has cut time . . . saved labor . . . reduced costly crating, shipping, and handling charges. It may be the answer to some of your own shipping problems. *Why not investigate its possibilities.*

Sisal fibre reinforcement for strength—special asphalt for waterproofness—kraft paper for clean, easy handling — sealed by heat and pressure to produce Fibreen.



Manufacturers of SISALKRAFT, FIBREEN, SISAL-X, SISALTAPE AND COPPER-ARMORED SISALKRAFT

REGIONAL REVIEWS (From Page 65)

Angeles area is most logical because it is closest to the greatest consumption.

The "spot authorizations" of past months have revealed the plans of many Southern California firms locally owned. Although many were returning to the products they formerly made and marketed, many are manufacturing new consumer items. Still unannounced are the plans of some western firms to market for "private brand" marketing.

As we move into the final months of 1945, the conversion pot is boiling away merrily at least on paper and in the conference room. And eastern interest in

Southern California is being demonstrated by action—not words.

An interesting sidelight on eastern firms is that many of them think in terms of smaller outlying communities. They have found that smaller units located in these smaller communities have many advantages. The workers usually earn enough to be in a fairly strong position in these local communities. They buy their homes, they belong to the church, to local lodges, to the Parent-Teachers organization, and they lead a full, happy life. There exists an opportunity for many smaller communities to develop in an industrial way during the coming months.

Convair Sets Record In B-32 Scrap Sale

Within less than a month all scrap and "work in process" resulting from the cancellation of Convair's B-32 contract in San Diego on May 25 had been sold to the San Diego Mill Supply Company and the Aluminum Company of America as high bidders, the Air Technical Service Command's Western District reports.

In disposing of the material in a month—all usable parts had been transferred to the Fort Worth plant where work on the B-32's continues—the company and the ATSC are believed to have established a record for the quickest settlement of a major work-in-process inventory in the aircraft industry.

SPB Gets \$831,339 For Western Sales

On consumer goods costing the taxpayer \$13,216,000 which were sold by the Surplus Property Board throughout the country in May, \$831,339 worth were purchased by 18 firms and buying agencies through the three regional offices of the SPB located in Denver, San Francisco and Seattle.

The commodities ranged from six armored scout cars, bought by Utah's Utah County for \$7,475, to 18,607 items of watch glass, jars and stand bowls which went to the Merchants and Manufacturers Procurement Agency in Washington, D.C., for \$5,283.

DPC Lists Western Plants For Sale, Lease

A total of eleven plants situated in Arizona, Nevada, Utah, Montana, Oregon and Washington have been offered for sale or lease recently by the Defense Plant Corporation as surplus industrial facilities.

Descriptions of the plants are as follows:

Pine Top Asbestos Mine, Globe, Arizona, mining and mill treatment; Anaconda Copper Mining Company, Columbus, Montana, chrome production; another of the same name and location for mining chrome ore; Manganese Ore Company, Las Vegas, Nevada, occupying 69,100 square feet, processing manganese oxide nodules; Approved Flax Company, Eugene, Oregon, processing flax fibre; Southwestern Engineering Company, Marshfield, Oregon, occupying 8,740 square feet, chrome concentrates.

Iron Fireman Manufacturing Company, Portland, Oregon, approximately 42,000 square feet of land; United Engineering and Foundry Company, Troutdale, Oregon, approximately 114 acres of land; Blanding Mines Company, Blanding, Utah, producing vanadic oxide; Wilkeson Products Company, Tacoma, Washington, occupying 6,305 square feet, metallurgical coke; Wilkeson Products Company, Wilkeson, Washington, coal production.

BEARINGS AND PILLOW BLOCKS



Solid Journal, Common Flat, Angle, Ring Oiling, Ball and Roller Bearing and Takeups.

On Engineering Problems call Engineering Products

ENGINEERING PRODUCTS CO.

1600 SO. SAN PEDRO ST. • PROSPECT 7044 • LOS ANGELES 15, CALIF.

REGIONAL REVIEWS

CONTINENTAL DIVIDE

MORE than 50 national manufacturers now are considering Denver as a location for industrial operations, according to the Denver Chamber of Commerce. Within the past year or so 14 new industries have taken root in Denver, employing 3,000 persons at present levels and promising payroll increases after the war that will raise the total to some 5,000.

The 14 new industries already located in Denver, as listed by the Chamber of Commerce, are as follows:

Bundsen, Inc., manufacturers of auto heaters, formerly located at Hartford, Conn.

Eversharp Pen and Pencil Company, a branch factory manufacturing pen points and providing repairs for 12 Western states.

Western Leather Products Company, factory formerly located in Chicago.

Maple Crest Turkey Farms, processing plant formerly located in Iowa.

Canada Dry Ginger Ale Company, building a million-dollar branch plant.

Ford Motor Company, recently bought nine acres for erection of assembly plant.

Carothers & Clark, moved headquarters and egg dehydration plant from Dallas, operating three plants in Denver.

General Foods, Inc., operating in portion of Denver Ordnance Plant.

Kaiser Industries, Inc., using several large portions of Denver Ordnance Plant, to which important additions have been made for speeding Kaiser contracts for heavy artillery shells, fuses and other ordnance.

Rex Air & Sales Company, establishing large sales and service department in Denver to service Western states territory.

Robvon Chill Ring Company, manufacturers of welding rings, moved to Denver from Portland, Oregon.

Snelson Seed Company, moving processing and packing plant from Savannah, Georgia to Denver.

Knox Glass Company moved from Knox, Pa. Spalter Bedding Company, factory moved from Flint, Michigan.

High Productivity

Major reason for the trek of so many industrial enterprises to the Colorado capital city, according to Carl E. Berg of the Industrial Relations department of the Denver Chamber of Commerce, is the high productivity of Colorado labor—29.6 per cent higher than the national average.

Denver employers are still telling the story of the Remington Arms production specialist who was amazed at the resourcefulness of the workers Remington rounded

up in 1941 and 1942 for jobs at the Denver Ordnance Plant. Totally untrained for factory work, the employees were recruited from farms, ranches, mining camps and small agricultural towns.

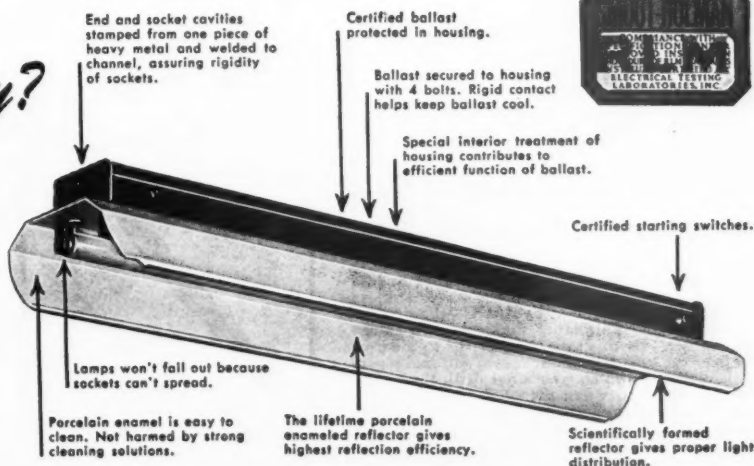
"It is incredible," the Remington official said. "These people have no conception of the function of a factory's repair and maintenance staff. When something goes wrong with one of their machines, instead of waiting around for the repair man to come along and fix it, these Westerners just fix it themselves and go right on with their work!"

Incidentally, although the great job the Remington company did at the Denver Ordnance Plant in turning out .30 caliber shells now is almost a forgotten chapter of the early war years, the Remington company still is engaged in important war production on large artillery shells in a portion of the Denver Ordnance Plant.

Sugar processors in the mountain-and-plain area will have a good year from present indications and some marginal plants used only in favorable years will be operated in 1945, including the Fort Collins, Colorado, plant of the Great Western Sugar Company. Only Great Western plants not to operate this year are those at Minatare and Limon in Nebraska and Wheatland, Wyoming. Largest of Great Western's plants is at Billings, Montana, followed by Longmont, Loveland and Fort

Why Buy Certified Quality?

Because the many features which enable Smoot-Holman to certify highest quality provide equipment giving the most light with the least maintenance cost. The RLM label is an additional guarantee, because RLM quality is policed by independent testing laboratories. Rated orders for Smoot-Holman certified equipment are now being filled—general distribution must await V-J day.



OFFICES IN PRINCIPAL WESTERN CITIES • BRANCH AND WAREHOUSE IN SAN FRANCISCO

REGIONAL REVIEWS (From Page 67)
Collins, in Colorado, and Scottsbluff, Nebraska.

Rates for electric power in Montana are expected to take a noteworthy drop as a result of the drastic order of the Federal Power Commission ordering the Montana Power Company to write off four-fifths of its claimed valuation. The FPC declared the total "write-up" to be \$51,978,000, much of it tracing back to the formation of the Montana Power Company in 1912 and 1913 by Thomas Fortune Ryan in a series of manipulations which gave Ryan a claimed \$33,000,000 interest with a total investment of less than \$2,500,000. The

case will be appealed to the U. S. Supreme Court.

New Mexico's highly-productive deposits of potash will be spotlighted as one of America's great sources of vitally-needed plant food in a long-range educational campaign soon to be launched by the American Plant Food Council which has headquarters in Washington, D. C. The Council was formed recently by fertilizer companies and producers of potash, nitrogen and phosphate to acquaint the public with the job these industries have done in the war effort and to promote American agriculture in post-war years to insure a high quality diet for all.

Ingenious New Technical Methods

Available Now to Industry in General



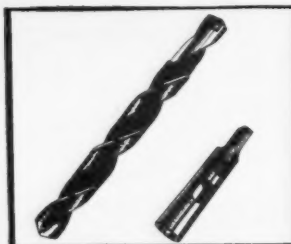
New Shankless Roll-Forged Drill is Faster, Tougher, More Economical

Developed by Ford for wartime uses—available now to industry in general. "More holes at less cost," is the claim for this ingenious new Shankless high speed drill—made in two parts—the drill itself, and a removable taper shank, known as the "drill driver." By this separation, costs to the user have been cut 20% to 30% under conventional taper-shank drills. In the conventional drill, the shank must be discarded when the point and flutes are worn out. Here, however, the drill driver is used throughout the lives of many drills. Shankless drills are roll-forged and twisted, unlike the machined manufacture of ordinary drills, for improved structure.

Principal advantages are (1) Lower first cost. (2) Greater hole production because of greater strength. (3) Reduced breakage with tough "shock-absorber" neck. (4) Greater length of usable flute. (5) Greater scrap recovery value of unused portion of drill.

War-time advantages of Wrigley's Spearmint Gum show how this quality product, too, can help industry—once it again becomes available. In the meantime, no Wrigley's Spearmint Gum is being made; and none will be made, until conditions permit its manufacture in quality and quantity for everyone. That is why we ask you to "remember the Wrigley's Spearmint wrapper," as the symbol of top quality and flavor—that will be back!

You can get complete information from
Republic Drill & Tool Co., 322 S. Green St., Chicago 7, Ill.



Shankless Drill and "Drill Driver"



Remember this wrapper

Z-78

Holes in the ground are the specialty of graduates of the Colorado School of Mines, and some of the holes are in odd places. Henry B. Parfet was operating a mine at Baguio in the Philippines when the Japs seized the islands in December, 1941. His son, Harry B. Parfet, Jr., was determined to go to Mines, like his pappy did. He won his high school diploma during his years of internment in the crowded, hunger-ridden Santo Tomas Internment Camp, while his weight dropped from 175 to 135 pounds. Now young Parfet is 19, back to 175 pounds, and attending the famous mining school at Golden, Colorado.

The Denver Water Department is pretty proud of W. B. McIntire, whom they call "Johnny Applesed." Digging ditches on the treeless rim of Marston Lake reservoir and filter plant, Mac had an idea. As he munched his lunch, he saved and planted the seeds from the apples, peaches, and other fruit in his lunch box. That was 20 years ago. As the first plantings showed gratifying results, he brought more lunches, more fruit, planted more seeds. Now more than 500 fruit trees border Marston Lake, thanks to a man who didn't just spit out his seeds.

New Colorado Springs Industry

Colorado Springs has attracted a new industry. By the first of the year some 200 persons will be employed by Welch Industries of Detroit in a new plant being built on the Colorado Springs-Denver highway north of the city. The plant will be used to manufacture completed parts for aircraft and automobiles after the war, and now is making tools for war industries including the Denver plant of Kaiser Industries, Inc. Rodney R. Welch, president of the firm, explained the new operation: "The Colorado Springs branch of our Detroit business is intended to service industries from St. Louis west to the Pacific Coast. We will add other units as fast as possible, until we have a really large plant here. Whether we eventually close our Detroit plant and move our entire business to Colorado Springs depends on future developments."

Acceptance in principle of the long-rumored and frequently-denied merger of Colorado Fuel & Iron Corporation and Wickwire Spencer Steel Company has been announced by Charles Allen, Jr., chairman of the board of both firms. The Wall Street group headed by Allen bought the C F & I from John D. Rockefeller last December. The strengthened firm resulted from the merger is expected to make an intensive effort to acquire the government-built steel plant at Geneva, Utah. Steel plate production at the Geneva plant would not compete with the rail, rod and fencing produced at the Pueblo, Colorado, plant of the C F & I.

Regional Reviews Puget Sound Area

MOMENTOUS is the present for Washington State industry. Just as war-time has rushed gangling youths to the threshold of their manhood, so has it brought the industrial northwest to its point of decision.

Will it become a fat old man, rich in natural wealth but wastefully inactive? Or will it be a sincere, wise and enterprising giant, realizing its potentialities and productively benefiting all concerned? This is the challenge—and now is the moment for decision!

No single voice can speak with authority to declare the determined course; but "actions speak louder than words." The purpose of this column is to highlight those actions which indicate the course being taken. Expressed desires and intentions abundantly point toward a determination to progress energetically. But however inspiring they may be, an attempt shall be made herein to remain purely factual and to describe primarily those events which actually signify the road being followed.

Considered in this light, recent noteworthy activities fall into one of four categories, which are:

- New industrial plants;
- An embryo of postwar aircraft manufacture;
- A naval ship-storage port;
- A stimulant to the utilization of light metals.

Especially significant trends indicated by these activities are:

Willingness to invest capital and energy in the creation or expansion of industrial facilities does exist;

Production of transportation equipment, light metals, and synthetic resins are considered to warrant expansion as feature products of this area;

Voluntary cooperation and the pooling of basic information for statewide as well as individual benefit is increasing;

Aggressive action is being taken to assure constructive development from national defense expenditures.

Now for the specifics:

Three New Plants

Three announcements of new plant construction are especially significant. The first is outstanding because it presents Kenworth Motor Truck Company's plans to build the largest, most modern and completely-equipped plant west of the Mississippi devoted to the production of heavy duty trucks and buses.

These plans were recently announced by Paul Pigott, president of Kenworth and of Pacific Car and Foundry Company. P. C. and F. has obtained controlling interest in

Kenworth, and the operations of the two firms will be integrated for maximum effectiveness. Although the exact location has not been determined, the new plant will be situated in the Seattle or Renton areas. Functional design of the products will make them especially adaptable to the primary areas to be served.

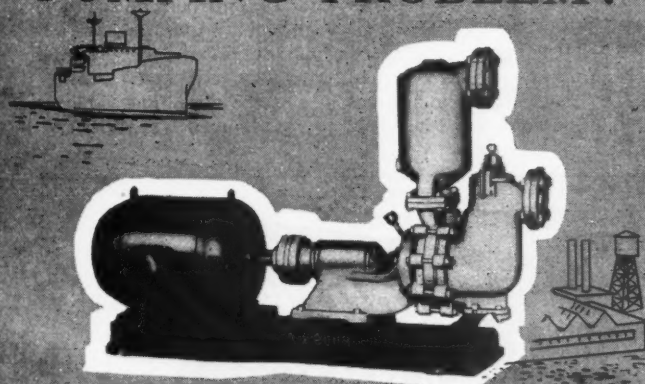
A new plant totalling 200,000 square feet of productive area, arranged for most economical operation, will provide ex-

cellent facilities for volume manufacture of top quality products. Moreover, the War Production Board's recent approval of increased quotas of civilian transportation equipment and the cancellation of military contracts portends approaching relief for overburdened users of these items. This action indicates courage, resourcefulness, and large-scale thinking, all of which are qualities sorely needed in this region.

The second significant statement announces the pending construction in Seattle of a plant for the new Metal Craft Foundry. Headed by C. E. Kammeyer of Seattle, this organization intends to provide complete technical service in design, stresses, patterns, die-casting and heat treating of aluminum castings.

(Continued on Page 70)

What's Your PUMPING PROBLEM?



Proper Equipment Properly Installed Will Solve It

And this is where Brooks Equipment Company can help you. Brooks engineers specialize in solving pumping problems. Your nearest Brooks office will gladly send competent engineers to consult with you on your problem. They will help you obtain highest efficiency at lowest cost from your equipment. And not only are they specialists in pump engineering, but they represent the outstanding LaBour line of industrial and marine pumps.

Brooks Equipment Company

SALES ENGINEERS
INDUSTRIAL MARINE PROCESSING EQUIPMENT
636 POTRERO AVENUE, SAN FRANCISCO 10
1101 Fourth Ave. 1233 N. W. Twelfth Ave. 1157 So. Hill St.
Seattle 1 Portland 9 Los Angeles 15

REGIONAL REVIEWS (From Page 69)

Western aluminum pig is to be used predominantly. This facility will provide local manufacturers with an excellent opportunity to benefit from improved products by incorporating light metal castings without the expense of individual processing equipment.

Second on the Coast

Third highlight is the building of a new synthetic resins plant by Reichbold Chemicals, Incorporated. Also in Seattle, this will be the company's ninth plant in the United States and the second on the West coast, the other being in San Francisco. As part of this world-wide manufacturing and distribution organization, the plant's products will be phenol, urea, and resorcinol-based adhesives, and alkyd resins for coatings.

This announcement by T. S. Hodgins, Reichbold's Pacific Northwest manager, indicates a desire to benefit from the abundantly available raw materials. The action prepares the company locally to provide good synthetic adhesives for the increasing manufacture of plywood and of laminated timbers. In addition, it places the firm in a strategic position for Asiatic export.

Boeing Aircraft Company's contract with the Government to make a limited number of C-97 transports is the first war time indication of commercial-type air-

plane manufacture in this area. It will give Boeing a chance to develop the design, tooling and processing data for a model that is readily convertible to airline requirements, either as passenger or cargo carrier.

Even though only a moderate quantity of ships is involved, the extensive preliminary work can be completed, thus paving the way for future private contracts. In an industry which has received extensive cut-backs and increasing releases for commercial production, Boeing is still going full blast on its B-29 program. It is thus handicapped in starting the race of post-war competition.

But the present contract, of which more might follow, may enable the wheels to keep turning—even though at a greatly reduced rate—after the B-29 contract is completed or terminated.

Fresh Water Basin

One of the coastal Washington's major problems results from the desire of the Navy to establish a ship storage basin for 300 to 400 ships. A fresh-water location with good docking and service facilities is wanted. Stubborn resistance has developed justifiably against the basin's being located in any existing or potentially valuable scenic or recreational area.

At the same time, sizable government expenditures for facilities and the income

to be derived from ship maintenance appear attractive. If these funds also contribute to the expansion of port facilities and of good industrial property, they will accomplish a double purpose. The outcome of this situation can have an important and far-reaching effect on the region.

Light Metals

More indicative of actual developments, is the recent Light Metals Conference held by the Seattle Chamber of Commerce. Though interesting and beneficial by itself, this particular meeting is but one facet of the concerted effort being made to assure maximum utilization of light metals and mutual benefit therefrom.

Both generalities and specifics are considered within the project. It includes the direct participation of representatives from all phases of business which are concerned with these materials and their products. Even more notable is the fact that this project illustrates a growing tendency toward progressive cooperation—toward the determined joining of forces for maximum accomplishment within the precepts of private enterprise.

In many respects, this conference might be considered as the first ray of dawn for Washington industry. During this day our boy may become a mature, capable and productive man, with wisdom and earned wealth.



Downs HANDLING EQUIPMENT

HORIZONTAL PLATE HOOKS may be used in sets of either two or four. Will handle one or more plates at each lift. They are time and labor savers for fast loading or unloading when plates are to be stacked in the flat position.

SAFETY PLATE GRIPS with either rigid or loose guide loops will hold with a positive grip in all positions. Used for handling vertical plates, they are also safe for upending or turning over horizontal plates or assemblies.

DOWN'S RAIL TONGS built for safe and economical handling of railroad rails of all sizes and weights. Two-ton capacity with jaw openings of 3" for rails up to 100 lbs. ASCE. Three-ton capacity with jaw openings of 4½" for the heaviest rails.

DOWN'S CRANE & HOIST CO.
340 W. Vernon Ave., Los Angeles, Calif.

- Owners
- Branch Managers
- Sales Managers
- Plant Operating Men

Do you know what you should about
POST WAR PLANNING?

WESTERN INDUSTRY can give
you the **FACTS**.

The more you know about your job
the better job you do.

Get the industrial magazine that
gives you the facts.

**FILL OUT AND MAIL
THIS COUPON TODAY**

To insure future profits
for your Company you
must keep posted on
market develop-
ments today.

**WESTERN
INDUSTRY**

a King Publication
also publishers of
WESTERN CONSTRUCTION NEWS
503 Market Street
San Francisco, California

Please enter my subscription for the
period shown below:

Name _____
Street _____
City _____
State _____
Position _____
Company _____
☐ 1 Yr. ☐ 2 Yrs. ☐ 3 Yrs.

SPOT AUTHORIZATIONS For Reconversion to Civilian Production

Los Angeles

Thermador Electrical Mfg. Co., electric air heater.
Trepte's Wire & Metal Works, combination car seat and baby chair.
Trimmer Mfg. Co., power mowers.
Utility Aircraft Parts Mfg., door stop.
Vandy Mfg. Co., aluminum cookie sheets.
Wilshire Mfg. Co., andirons, firesets, firescreens.

Other Southern California

Pasadena—King Enterprises, baby feeding spoon, teaspoons.
Santa Ana—Powell Neon Sign Co., neon signs.
Santa Monica—Francis Lucchese, toy animals.
Arcadia—M. T. Strommen, Besocke Tool & Mfg. Co., ash trays, cigarette roller and case.
Bakersfield—Kurth Batteries, Inc., automotive storage batteries.
Bellflower—Florence O. Fenton, toys.
Burbank—Robert Gibson, garden trowels and hand cultivators.
Chula Vista—L & M Foundry, toys and games.
Glendale—Arthur J. Beaubien, wooden rocking horse.
Earl Niles, shopping cart.
Hollywood—Ralph DeAngelis, combination opener and corkscrew.
Johnson Products Co., potato peeler.
Huntington Park—Grigg Specialty Tools, replacement parts, brake bleeders and brake shoe gauges.
Laundale—Paul Boving, portable table lamps.
Long Beach—Blaisdell Mfg. Co., oil feed orifices.
Pacoima—Pacoima Furniture Shop, domestic ice boxes.
Van Nuys—Louis E. Davis, wood venetian blinds.
" " Timm Aircraft Corporation, domestic electric vacuum cleaners.
Ventura—The Jet Company, rocking chair hobbyhorse.
West Los Angeles—Aquaplastic Company, hot plates.
Wilmington—Acme Stamp Shop, portable lamps.

Highly Protective Stanzoil Gloves



have unusual new non-slip finish for easier more efficient work...

● Positive gripping, this remarkable new finish holds slippery objects better than bare hands. It gives your workers assurance and speed along with extra safety. They like neoprene Stanzoil's flexible comfort. You like the low cost per hour because of 3 to 7 times longer life in oils, acids, caustics, etc. All needed sizes, styles, weights — black or white. Avoid costly injuries, get more production—write for new Stanzoil catalog today.



Synthetic Rubber Division
THE PIONEER RUBBER COMPANY
267 Tiffin Rd., Willard, Ohio, U.S.A.
New York • Los Angeles

OVER 25 YEARS OF QUALITY GLOVE MAKING

Every foot of unused overhead space you can reclaim reduces the horizontal movement of materials, conserves floor space.

Every pound you lift mechanically saves men's backs, frees them for more skilled work, cuts handling costs.

Do both with the Service Electric Hydraulic Lifter. It's versatile, can be used for countless lifting jobs... built to stand up under steady service... handles 1000 or 2000 lbs. Write for complete data today.

SERVICE CASTER & TRUCK DIVISION of Domestic Industries, Inc.
676 N. Brownwood Avenue, Albion, Michigan
Eastern Factory: 449 Somerville Ave., Somerville (Boston) Mass.
Toronto, Canada: United Steel Corporation, Ltd., SC&T Co. Division

SERVICE

POWER LIFT TRUCKS
MANUAL LIFT TRUCKS
LIFTERS • CRANES
TRUCKS & TRAILERS
DOLLIES • SKIDS
CASTERS • WHEELS

LABOR

AND THE INDUSTRIAL WEST

APPPOINTMENT of Harold R. Evans as field representative of the Douglas Fir Plywood Association to foster development of improved machinery for plywood factories is an interesting departure in both industrial relations and product development. The Association announcement states that he has been employed by plywood factories since 1931 and "has been prominent in union activities." It is understood that he is still a good pro-union man, but his new work will not be with unions as organizations, but with the individual worker.

He was apparently chosen for the new job because his long association with the rank and file as one of them himself has provided him with a keen understanding of their viewpoints and because his conduct in union labor circles has been such as to develop a considerable confidence on the part of the rank and file worker in his general initiative and integrity.

The growth of the plywood industry to its present proportions in a relatively short space of time has been attended with the invention of literally hundreds of devices and methods which in the aggregate comprise the machinery of the present day plywood production processes. Analysis by the industry of the origin of these new ideas has shown the man on the job to be a principal source.

As an outgrowth of the activities of the new Plywood Research Foundation, in the development of new and improved plywood and allied products, the plywood industry anticipates the corollary development and refinement of production machinery. Evans' job will be to stimulate the flow of ideas on production machinery from the plywood factory workers and to assist in translating these ideas into practical patented forms available to the industry as a whole.

Evans will also in a sense become an

agent for these ideamen in handling their patents and it is believed that, through its general assistance via Evans, the Plywood Research Foundation will more or less centralize control of new plywood production patents in the Foundation in some sort of partnership with the individual inventors. Such control and interest by the Foundation will provide a recurring source of revenue for the Foundation and more or less automatically channel a continuing flow of funds into the Foundation for research and development purposes.

Miners Get Points In Lieu of Dough

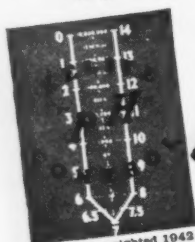
"The men who toil for gold" will have to do their gold digging at the same wages they were receiving when gold mining operations were closed down by the War Production Board in 1942. Such is the pronouncement of J. Glenn Donaldson, chairman of the Nonferrous Metals Commission.

However, Donaldson pointed out, a survey of the gold mining industry has disclosed that some gold mining firms still have authority to grant wage increases to meet increased living costs.

"Such companies, upon application to the commission, may receive permission to increase wages up to 15 per cent above the average straight time rates prevailing Jan. 1, 1941," he said.

Companies may also apply for adjust-

For Efficient Cleaning



pH CONTROL

has proved to be the key to a new, high standard of efficiency in cleaning.

Wherever there's dirt, grease, grime, scale, corrosion—any undesirable deposit or contamination—Kelite materials with pH Control can solve the cleaning problem.

For specialized materials and methods to suit your cleaning requirements, ask your local Kelite Service Engineer or write: **KELITE PRODUCTS, INC., 909 East 60th St., Los Angeles 1, Calif.**

"Kelite" Reg. U. S. Pat. Off.



Off-balance bandsaws, caused by uneven flooring, often account for uneven cuts. Not so, however, where the Johnson Metal Cut-off Bandsaw is used. The exclusive 3-point base provides rigid anchorage. No matter how uneven the flooring, the Johnson Bandsaw sets solid, prevents irregular cuts.

Other Important Johnson Features

1. Thinner blade reduces metal waste
2. Box type frame protects movable parts
3. Four speeds provide right speed for every metal, hard or soft
4. Hydraulic control insures even pressure throughout cut
5. Coolant attachment minimizes friction, prolongs blade life
6. Automatic shut-off after cut is completed

WRITE TODAY FOR FULL DETAILS

JOHNSON MANUFACTURING CORP.

5014 CHRYSLER BUILDING • NEW YORK 17, N. Y.



"Keep 'em rolling!"

—Let Stuart check your welding equipment

It's not only good business, —it's our *duty* to keep every tool working. You may get 10-20 per cent more output if your equipment is in tip-top shape. So, let us make a thorough examination; give an impartial report based on hundreds of shops like yours. No cost, no obligation; just part of Stuart service that has helped make us the largest California-owned manufacturer of Oxygen and other gases. We've *had* to be good to get that way!

We're also one of the largest distributors of welding equipment and supplies with stocks in more than fifty towns. Wherever your job may be, you'll find us ready. Just telephone!

Stuart Oxygen Co.

San Francisco, Oakland, Los Angeles

Every foot of acetylene used in six of the largest shipyards on the Pacific Coast is generated from

PACIFIC CARBIDE

Made by Pacific Carbide & Alloys Co., Portland, Oregon (wholly-owned subsidiary of Stuart Oxygen Co.); distributed by Stuart Oxygen Co.

ments to correct intra-plant and inter-plant inequities. The latter contemplates the use of wage bracketed rates set in the various labor market areas for metal mining companies. Employers with fewer than nine persons are exempt from jurisdiction of the War Labor Board but are "expected" to comply with wage stabilization principles, according to Donaldson.

But money isn't everything. Miners of coal and ore in the Denver and San Francisco areas have been given a break by OPA, which learned from a report issued by the National Research Council that heavy manual work done by miners calls for an unusual high intake of calories. So now the miners—all miners in the West—are to have, in addition to regular ration allowances, 50 red points and an extra pound of sugar per man, per month. The only exception applies to miners served by on-the-job eating places. They don't get the bonus.

Overtime Increased Beyond Congress Limit

The 12th Regional War Labor Board at Seattle recently took action in the Pacific Northwest cannery wage case that industry contends is going beyond the limits provided by Congress. The Board's decision was in regard to overtime.

Prior to the 1944 season the canneries had been governed by the Fair Labor Standards Act, providing that for the first 14 weeks no overtime is paid, since perishable commodities are being handled on a seasonal basis, but after that period overtime is paid for 56 hours and more of labor. In 1944 the Board reduced this to 48 and 56, but for this season the Board made it straight 48 hours for both periods of the season.

Industry's position is that although Congress provided exempt periods, WLB has cut them down, exceeding its authority, since Congress recognizes the needs of the fruit canning industry. The decision governs all canneries in Washington and Oregon. Unions had asked for a 40-hour week.

Night shift differentials also were increased by the Board from 2½ cents to 4 cents, and vacations of 1 after 1 and 2 after 5 were included in the contract.

Commissions Figured In

Two recent decisions of the 12th Regional War Labor Board at Seattle figure bakery drivers' commissions as part of the going rate of wages. In the first case, involving the Oregon area, it was ordered that vacation pay should include the commissions not only for the man on vacation but also for his substitute. In the Seattle Bakers Bureau case, the Board used base pay plus commissions to determine the wage bracket.



This DOUBLE test assures the best

Science supports your judgment in choosing PAYNE heating equipment. Every PAYNE Furnace bears not only the Seal of Approval of the American Gas Association, but also the "OK" of our own modern, splendidly - equipped testing laboratory. ★ War production limits our furnace deliveries to priority jobs . . . until men and materials are released. But our 30 years' specialized heating experience is at your service . . . in estimating and planning any commercial, industrial or residential heating installation. ★ Write for new booklet on . . .

PAYNE ZONE-CONDITIONING

. . . successor to old-fashioned central heating. Circulated winter warmth, cooling summer ventilation, controlled by zones or rooms.

PAYNE FURNACE COMPANY
(One of the Dresser Industries)
BEVERLY HILLS, CALIFORNIA

PAYNEHEAT
OVER 30 YEARS OF LEADERSHIP



Johnston

STAINLESS STEEL
WELDING RODS
for SATISFACTION
in SERVICE

We recommend Johnston Stainless Steel Welding Rods for maintenance and repair of machinery. You will get a fine job that will greatly increase the life of your equipment.

DISTRIBUTORS:

J. E. HASELTINE & CO.
2nd Ave. & Ash St., Portland 3, Ore.
510 1st Ave., So., Seattle 3, Wash.
ANDERSON EQUIPMENT CO.,
644 E. Florence Ave., Los Angeles 1, Calif.
ARIZONA WELDING EQUIPMENT CO.,
230 So. Central Ave., Phoenix, Ariz.
THE GALIGHER CO.,
48 So. 2nd East St., Salt Lake City 1, Utah
WELDING SERVICE SALES, INC.,
926 Howard St., San Francisco 1, Calif.

A.P. Johnston

1815 EAST 57th ST., LOS ANGELES, CALIF.
TELEPHONE KIMBALL 7508

IMMEDIATE DELIVERY



Model
AR

You can depend upon Redington to make *immediate delivery* of these sturdy, 100% accurate Counters, aptly called "Watchdogs of Production." They count up to 24,000 an hour... are available in models for many types of machines and industrial installations... are fully guaranteed. Write today for the new Catalog.

F. B. REDINGTON CO.

118 So. Sangamon St., Chicago 7, Ill.

Present and Future Employees Equal

National War Labor Board has modified a ruling of the Tenth Regional War Labor Board at San Francisco so as to provide that Bowen and McLaughlin, Phoenix, Arizona may continue to pay its present wage rates of \$1.37½ both while it continues to do its present repair work and after it returns to heavy construction and incidental repair work.

The regional board's decision, which was appealed by the company, authorized the company to pay its existing rates to employees on the payroll as of February 3, 1945, the date of its ruling, but required the company to pay lower rates based on brackets to employees in the same classification hired after that date.

The majority opinion said, "We know of no warrant in board policy for establishing a rate differential between present and future employees, all of whom are to do the same work, nor does the board normally limit its approval, in rare and unusual cases, to specified periods of time or to the completion of specified contracts."

A dissenting opinion by industrial members stated that the ruling will perpetuate indefinitely, payment of the allegedly unstabilizing rates paid employees working on the remanufacture of "half tracks."

Weld Removing Chisel Guide

A weld removing chisel guide, designed by Russell Meredith, of California, has proved itself a great time saver and permits removal of the surface of the weld without injury to the parent metal.

The guide, which looks not unlike the runners of a sled, fits over the end of the air gun. One runner lies along either side of the path traveled over by the chisel as it is activated by air pressure from the gun. By means of a screw on top of the device the runners of the guide can be spread to permit a wider channel when a larger weld surface is encountered.

The saving of time in using the new device is quite apparent when compared with the older method of grinding away the weld bead. Cost of the old way of removal was \$.50 a foot. The new method has brought costs down to \$.15 a foot.

Fewer Strikes in San Francisco

Strikes in San Francisco have decreased in the last five years, while for the nation as a whole they have increased. The San Francisco strikes also have been of shorter duration and involved fewer workers than the average for the nation as a whole. Bureau of Labor statistics show a decrease in 1944 of 80 per cent from the 1939 level, 95 per cent decrease in number of workers involved, and 98 per cent in number of man-days idle.

F.H.A. LOANS

TO BUY—
REMODEL—
REFINANCE



Long-term and low-cost F. H. A. loans are still available to finance the purchase of homes already built. Monthly payment F. H. A. loans for buying or refinancing homes are made by this bank for as much as 80% of the appraised value of the property with as long as 20 years to repay.

For further information call
at our Real Estate Loan
Department

CROCKER FIRST NATIONAL BANK

OF SAN FRANCISCO
California's Oldest National Bank
ONE MONTGOMERY STREET
Member Federal Deposit Insurance Corporation

For the Finest
in
Sound Equipment
Watch...

NEWCOMB

... the sound of quality

Announcements of special interest to discriminating buyers of sound equipment may be expected in the near future. Send us your address to receive these mailings as they become available.

Newcomb

AUDIO PRODUCTS CO.
Manufacturers Since 1938

2815 So. Hill Street, Dept. B
Los Angeles 7, California

Forecast By Plywood Men

FIR plywood, the \$80,000,000 building commodity manufactured by 31 Pacific Northwest factories, probably will not be available to civilians until after Japan is defeated even though building restrictions may be eased sooner, it was reported at the annual meeting of Douglas Fir Plywood Association at Tacoma in June.

Although plastic-surfaced plywood has been produced in accordance with military specifications for many months and much speculation has been evidenced as to its future possibilities, few details of the present and future products previously have been released. However, at the meeting not only was development of the panels reviewed but also furniture, signs, boxes, and novelties built of the new material were displayed.

"The rapid development of products combining plywood or veneer (thin sheets of wood) and plastic overlays is perhaps the outstanding industry advancement of the year," said W. E. Difford, managing director.

By bonding a plastic surface to plywood or veneer many new properties are added

to its inherent strength. Some panels may have completely finished surfaces which are hard, smooth, wear-resistant and water-resistant and in a variety of colors. Other plastic-plywood sheets would be intended for further finishing such as painting. The natural wood appearance is retained in some surfaces; other plastic sheets mask the wood completely.

Cargo Plane Loading Requirements Told

Describing the job of loading cargo in most present-day airplanes as a "time consuming, costly" operation, F. B. Collins, sales manager for Boeing Aircraft Company in an address at Washington, D.C. recently, said that such a condition was no longer the case in the latest available planes.

In describing the requirements that must be fulfilled for the satisfactory handling of plane cargo, Collins cited the following conditions as mandatory:

Loading doors of adequate size must be located in the plant at truck bed height; head room must be provided within the holds to facilitate rapid stowage of cargo; angles of intersection between walls and ceiling and floor in the holds must be at right angles as nearly as possible, tie down equipment of simple operation must be provided, and, in the case of all cargo

ships, special conveyor devices for ease of load disposal throughout the ship must be incorporated.

New Projects For Western Council

Public lands will be the next major project of the Western States Council, following steel and light metals, and a committee already has been appointed for preliminary work. Meanwhile a committee has been appointed to study the proposed Pacific Northwest-Alaska highway link through British Columbia. Its efforts probably will be largely devoted to urging President Truman and other government officials to speed up action.

T. A. Stevenson of Tacoma is chairman. Other members include Arthur Farmer, Portland, J. R. Gobble, Idaho Falls, Louis Lundborg, San Francisco and W. G. Ferguson, Helena. All of them are chamber of commerce managers except Ferguson, who represents Montanans, Incorporated.

Girl Exemption Revoked

Wartime exemption to the Public Contracts Act under which 16 and 17 year old girls could be employed under certain conditions on government supply contracts, has been revoked insofar as employment of additional girls 16 and 17 are concerned. Girls already employed are not affected by the order.



—FROM THE WEST'S LARGEST MANUFACTURER OF PHOSPHATES AND PHOTO-PURE CHEMICALS

Because the A. R. Maas Chemical Co. have been manufacturing chemicals for the photographic, petroleum, soap, beverage and other industries for many years and due to our improved facilities and new techniques, we are able to serve you better than ever before.

Write today
for
technical
catalog

A. R. Maas
CHEMICAL CO.
4570 ARDINE STREET, SOUTH GATE, CALIFORNIA

"ARMED FOR CHEMICAL SERVICE"



INDUSTRIAL RUBBER PRODUCTS
Hose — Belting — Packings
Rubber Clothing — Boots — Specialties



GOODALL RUBBER COMPANY

(CALIFORNIA)

LOS ANGELES 310-514 E. 4th St. Michigan 2207
SAN FRANCISCO 678-A Howard St. Sutter 7844
SALT LAKE CITY 251 W. South Temple St. Phone 3-8021
SEATTLE 524 1/2 First Ave. So. Elliott 7043

Mills — Trenton, N. J., established 1870

EFFICIENCY KINKS FROM WESTERN PLANTS

Production short-cuts • Worker's suggestions • Prize-winning awards

For designing and constructing a machine that will save two-thirds of the ship repair spent on bending pipe, steel rounds and flats, Joseph J. Mufich, Seaman, Second Class, USNR, at Camp Shoemaker, California, has received a Certificate of Commendation.

A feature of this machine, in addition to the speed with which it dispatches pipe bends, is its small size, which would permit it to be used as a part of every ship's repair department and especially aboard the floating dry docks which accompany our task forces. Such equipment would facilitate repair work at sea.

The secret of this machine is the proper use of compressed air instead of hydraulic rams. Models built by Mufich, which required about three days to assemble and were made from scrap materials, are now in use at Pearl Harbor, Guam and Great Lakes, Illinois. These will handle four-inch square billet, hot, and three-eighths inch round stock or two-inch galvanized pipe. The air compressor on these units is

no larger than the ordinary filling station-size, using only 100 pounds pressure.

Previous to entering the Navy, Mufich was owner and general manager of Calumet Forgings Co., Chicago, and was engaged in the manufacture of various forgings for both the Army and Navy.

Designing of a squeezer yoke that eliminates any distortion during operations of a punch press has won the payment of \$50 on a patent award for Harvey J. Sines, inventor and worker at the Vultee plant in Southern California. In addition Sines will share in any royalties which will accrue from use of the patent granted on his invention.

Known as a sandwich yoke, the device provides a squeezer yoke in operations, such as piercing, that requires that a ram and an anvil remain in alignment while being subjected to several tons of pressure.

Purpose of the device is accomplished by having the pressure unit mounted separately from the guides and slide ram. The two yokes which are used are joined only when they reach the anvil unit. When the thrust from the pressure unit reaches the top of the ram, its reaction is transmitted to the anvil area by one yoke which reflects according to the predetermined pressure. Alignment of ram and anvil are maintained by the other yoke.

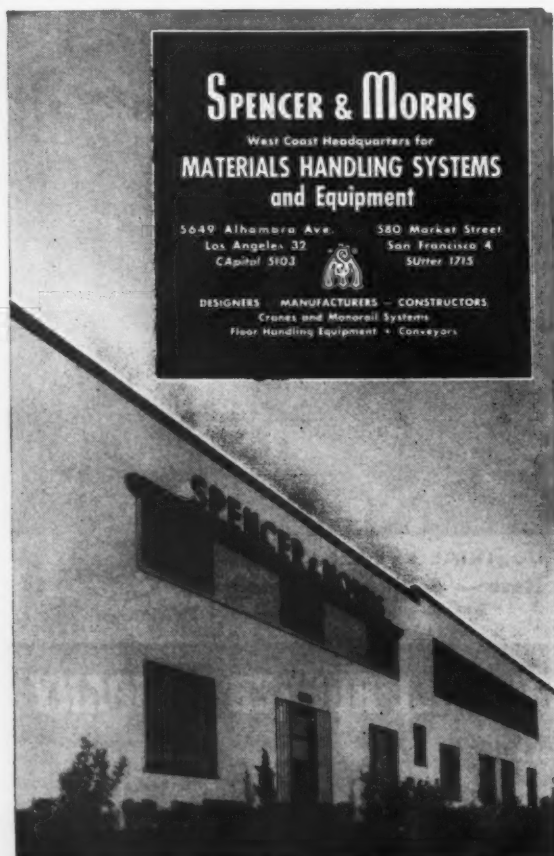
New Operations At Basic Magnesium Plant

Five contracts have been signed leasing some of the facilities of the Basic Magnesium, Inc. plant at Henderson near Las Vegas, Nevada. Management of the BMI properties at Henderson and Gabbs will be under the direction of J. M. Montgomery & Co. of Los Angeles as agents of Defense Plant Corporation.

Stauffer Chemical Company will operate the chlorine and caustic plant, with C. P. Donohoe, formerly metallurgical superintendent for BMI, as plant manager, and Harold Hautz, formerly chief engineer for Stauffer's Niagara Falls plant, will be plant superintendent.

Western Electro Chemical Co. of Los Angeles will manufacture potassium perchlorate and DPC will finance \$5,000,000 worth of equipment for their operation. Cornwall Warehouse Co. has leased facilities for storing materials and supplies destined for the armed services, and Rheem Manufacturing Co. will continue its shell manufacturing operation.

H. H. Gillings will be general manager for the Montgomery Nevada operations, with Guernsey Frazer as administrative assistant. Basic Magnesium, Inc., which had been under Anaconda Copper Mining Company direction since 1942, has been released from its obligations to operate the plant.



SPENCER & MORRIS
West Coast Headquarters for
MATERIALS HANDLING SYSTEMS
and Equipment

5649 Alhambra Ave. 580 Market Street
Los Angeles 32 San Francisco 4
CApital 5103 SUtter 1715

DESIGNERS MANUFACTURERS - CONSTRUCTORS
Cranes and Monorail Systems
Floor Handling Equipment - Conveyors



EASTMAN TAGS
In a Hurry
From the
House of Service

TWO
MODERN
FACTORIES

SHIPPING TAGS
ADDRESS LABELS
TAG ENVELOPES
WORK TAGS
MARKING TAGS
MANIFOLD TAGS
INSTRUCTION TAGS
SYSTEM TAGS
ADVERTISING TAGS

Send For Samples

FULL
AUTOMATIC
EQUIPMENT

EASTMAN Tag & Label Co.
548 FOURTH STREET 743 EAST 60th STREET
SAN FRANCISCO, 7 LOS ANGELES, 1
SERVICE REPRESENTATIVES IN ALL WESTERN STATES

Wartime Trains Make Tunnel Hazards

An investigation is being conducted jointly by five government agencies in an effort to determine ways of reducing the hazards brought about in railroad tunnels due to depletion of oxygen, increases in smoke, gases and temperatures as a result of wartime traffic conditions.

Specifically the hazards result from the fact that many of the longer trainloads now being used for hauling war supplies, often employ three, four or even five locomotives.

Since many of the tunnels are over a mile in length, some of them exceed 7,000 feet, a serious and dangerous condition is often brought about while the train is passing through the tunnel.

The investigating agencies are the California Railroad Commission, U. S. Bureau of Mines, Bureau of Adult Health, California State Department of Public Health and the Industrial Accident Prevention Bureau of the Industrial Accident Commission.

Snoqualmie Had First Aluminum Power Line

First aluminum transmission line for electric power in the United States was that built by the Snoqualmie Falls Power Company back in 1899, it was casually revealed at the light metals conference in Seattle in June by Arthur V. Davis, guiding genius

of the Aluminum Company of America throughout its career. It was his first visit to Seattle since he made the sale, 46 years ago.

It was a case of "imagineering," because aluminum cable just didn't exist at that time, although Mr. Davis was certain that it ought to. He and his company were young upstarts in those days, but he convinced the young manager of the power company that his product would be superior to copper.

After that the power company manager had to sell the idea to his father, a Chicago capitalist who owned the concern, and then there was one more hurdle, the highest of all. This was the fact that no wire rope factory would touch aluminum. Mr. Davis made the rounds of them all, and then Alcoa had to buy its own mill in order to get the Snoqualmie job out.

\$10,000 Fine Set For Contracting Firm

A \$10,000 fine has been imposed on the Empire Construction Company of San Francisco, a general contracting firm, for its violation of War Production Board Order L-41 which controls construction work.

The penalized company was charged with having spent \$60,000 on a job for which only \$11,775 had been authorized. In setting the fine the judge said that he

would have imposed twice the penalty if it had been allowed by law.

Still to be heard are the cases of Charles Spivak, president of the firm, and Ralph E. Wood, former chief engineer, both of whom were charged jointly with the company.

Move to Fontana

Kaiser Company, Inc., Iron and Steel Division, have moved administrative offices under the direction of A. B. Ordway, vice-president and general manager, to the steel plant at Fontana, from Oakland. This is due to operations shifting gradually from a wartime basis toward a normal supply of iron and steel products to jobbers and fabricators.

10,000th P-51 Ready

As part of North American's Inglewood plant observance of the Fourth of July the 10,000th California-built P-51 Mustang was rolled out the plant doors ready to take off for the Japanese battlefronts. The plane is of the variety of the first land-based plane to raid Tokyo.

Oregon Bus Line Sold


The Oregon Motor Stages Lines, Inc., operating in the northwest part of the state as well as city bus service in Eugene and Salem, has been sold to a group of interests from Portland, Oregon and Seattle and Vancouver, Washington.



You'll Save 30%* or more by using only GENUINE Clipper Belt Hooks with Modern Clipper Belt Lacers

*TIMKEN ROLLER BEARING CO. AND OTHERS EFFECT THIS SAVING IN BELT LACING COST.

In over 30 years experience manufacturing belt lacing equipment *exclusively*, Clipper has developed the world's finest belt hooks. To get the best service from these top quality hooks apply them with a modern belt lacer such as the Clipper No. 9 Portable. This combination will save you money. See your Mill Supply Jobber for demonstration.



No. 9 Portable Lacer

CLIPPER BELT LACER COMPANY, GRAND RAPIDS 2, MICHIGAN



Clipper

BELT LACING EQUIPMENT

SPED VICTORY
BY NOT INTERRUPTING PRODUCTION

Speed REDUCERS

FOR YOUR SLOW SPEED DRIVES

Our diversified line of Speed Reducers offers you these advantages for obtaining slow speeds from efficient high speed motors: Chains-sprockets, belts-pulleys are not needed. 30 different sizes of MOTORIZED and 17 sizes of MOTORLESS Reducers are available. Motors, gear boxes, gears are Janette built, which eliminates divided responsibility for their successful operation. **Try them; you too will become another satisfied user of Janette Reducers!**

Los Angeles: W. A. Hoppe, Phone TUCKER 3768
San Francisco: Adam-Hill Co., Phone MARKET 4137
Seattle: J. P. Hermans, Phone MARKET 4166
Vancouver: Renold-Coventry, Ltd., 1066 Seymour St.

Janette Ask For Bulletin 22-27

Janette Manufacturing Co. 536 W. Monroe St. Chicago 6, Ill.

1/50 to 7 1/2 H.P.
.08 to 1140 R.P.M.



THE WESTERN OUTLOOK... NEWS... STATISTICS...

THE PICTURE

Manpower remains the main problem of the West, with skilled men for ship repair work far short of the demand and the lumber industry suffering in increasing degree from lack of loggers. The battle-damage peak in ship repair has eased off a bit after Okinawa, although likely to rise again at any time. Aircraft production is still on the same level, although employment in the air-frame plants continues to decrease. The fruit and vegetable canning season promises to be another big one, with continued increase in the output of frozen foods.

Lumber—Declines Continue

Though the average weekly cut for West Coast lumber rose to 133,585,000 feet in June, the cut still remains 12 per cent behind that of the same period for 1944. Output from the woods is expected to drop during July owing to the paid vacations which many operators have to give their employees under terms of working agreements, according to a statement by the West Coast Lumbermen's Association.

Meanwhile lumber continues to be at demand peak both because of its need in the battle areas and the rising program of civilian building. Unfilled orders stand at 950,546,000 b.f. with gross stocks on hand of 392,835,000 b.f.

No general betterment is seen in the employment picture, but there is an improvement ex-

pected in shipping owing to more truck tires being made available.

Cumulative figures for 26 weeks in 1945 and previous years in thousands of board feet as reported by the West Coast Lumbermen's Association are as follows:

	26 Weeks 1943	26 Weeks 1944	26 Weeks 1945
Production	3,818,360	4,121,469	3,621,892
Pct. of 1941-45	90.6%	97.7%	85.9%
(Years Produc'n)			
Orders (net)	4,128,387	4,352,006	3,848,636
Shipments	3,922,639	4,147,875	3,636,829

Western Pine Association figures covering Idaho White pine, Ponderosa pine, Sugar pine and associated species for the current year through the week ending June 30 are:

	1944	1945
Orders	1,749,272	1,594,550
Shipments	1,708,032	1,559,642
Production	1,524,028	1,418,416

Copper—Output Rises

An increase of 1269 tons, or 2 per cent of the April output, in the Western states was experienced during May though daily production declined from 2132 to 2104 tons. Largest gain during the month was made in Utah where output jumped 1093 tons due to a longer working period at the Utah Copper Company.

Production figures from the Western states in short tons are as follows:

	Ariz.	Mont.	Utah	Tot. Western, including other states
Jan.	25,371	9,003	19,692	67,707
Feb.	23,619	8,090	18,269	64,572
March	26,239	8,929	19,548	70,820
April	25,425	7,540	19,807	63,966
May (prelim.)	26,000	8,000	20,900	63,233

Aircraft—B-17 Discontinued

Despite the fact that output of airplanes declined during the month on the West Coast to 1,196 in accord with the tendency that set in with the April decline below the March figure, there is no reason to anticipate a sudden drop that will break the rhythm of the tapering-off process.

Actually a great deal of experimental work with new types of planes is now going on, and it is distinctly possible that at least limited production of some of them is likely to continue even after the successful conclusion of the war.

Figures from the Western Procurement District, Air Technical Service Command, are as follows:

	No. of Planes	Total Pounds
August	1,930	26,391,000
September	1,802	26,293,000
October	1,609	21,960,000
November	1,499	20,821,000
December	1,488	21,035,000
January, 1945	1,630	22,440,000
February	1,436	21,146,000
March	1,621	24,146,000
April	1,437	22,973,000
May	1,336	22,578,000
June	1,196	20,007,000

Cement—April Report

PRODUCTION
(In thousands of barrels)

—California—		Oregon-Wash.		Utah-Idaho		Colo.-Wyo. Mont.		
Jan.	1,080	1,258	1944	1945	1944	1945	1944	1945
Feb.	1,000	1,191	317	269	156	171	138	132
Mar.	1,231	1,226	291	245	147	97	195	121
April	1,217	1,257	381	250	138	132	138	132

War Production Contracts

In Thousands of Dollars—Source: War Production Board Statistical Division

NOTE: The monthly award figures shown below represent only an approximation of the actual contracts, because cut-backs and cancellations are usually on previous awards, although reported in the current month. Also there is considerable lag in the reporting of individual contracts. However, WESTERN INDUSTRY is reporting the monthly awards by the successive subtraction method as an approximation.

	MONTANA	IDAHO	WYOMING	COLORADO	N. MEX.	ARIZONA	UTAH	NEVADA
	All Other	Ships	All Other	All Other	All Other	All Other	All Other	All Other
September 1944	211	141	220	1,016	52	2,200	100	401
October	135	...	329	1,620	...	803	...	64
November	95	80	533	740	...	2,459	101	206
December	7,756	...	76	1,259	...	435	141	58
January 1945	7,892	...	19	58	...	3,674	979	116
February	15,784	...	103	435	...	9,720	2,233	102
March	31,051	...	18	10,896	...	23,169	666	10,884
April	35,989	...	268	10,896	...	124,338	666	8,880
Ap II	35,989	...	268	10,896	...	124,338	666	8,880
Total from June 1940	112,552	787	6,439	39,990	1,828	3,739	184,745	6,175

	WASHINGTON	OREGON	CALIFORNIA	TOTAL
	All Other	All Other	All Other	All Other
September 1944	82,689	6,287	70,190	116,065
October	...	15,877	14,475	59,332
November	...	133	12,205	106,858
December	...	21,408	490	188,310
January 1945	43,256	36,524	3,347	303,992
February	83,154	53,995	12,035	295,987
March	93,658	42,297	7,689	434,839
April	93,618	42,297	14,452	434,839
Total from June 1940	2,199,656	2,268,318	331,689	3,337,113

Electric Energy—Slight Variations

Production of Electric Energy for Public Use—In thousands of Kilowatt Hours—Source: Federal Power Commission

	Montana	Idaho	Wyoming	Colorado	New Mexico	Arizona	Utah	Nevada	Total Mtn.	Washington	Oregon	California	Total Pub.
September 1944	192,753	105,757	23,160	88,079	42,763	343,750	24,431	229,951	1,051,249	780,323	386,453	1,304,797	2,411,477
October	203,033	81,574	19,303	93,893	41,834	354,936	30,867	236,822	1,062,262	811,621	387,819	1,238,409	2,437,849
November	203,016	84,341	19,968	92,236	42,643	327,579	32,750	255,128	1,027,659	842,505	364,874	1,157,252	2,364,071
December	212,383	83,551	19,772	98,459	45,091	317,797	37,743	234,907	1,049,709	905,612	351,814	1,227,941	2,483,367
January 1945	206,308	93,231	22,209	97,960	44,440	330,526	37,908	234,315	1,066,897	954,958	331,980	1,222,227	2,548,984
February	188,781	84,619	18,385	87,980	40,066	297,242	29,773	206,485	953,331	868,143	295,324	1,222,227	2,548,984
March	195,818	95,634	19,135	98,484	44,741	295,689	32,387	279,405	1,061,291	953,643	366,037	1,244,797	2,544,477
April	189,951	108,446	19,636	91,413	45,024	260,694	34,449	225,369	975,982	853,860	393,408	1,297,580	2,544,843
May	173,987	115,524	22,309	94,597	44,350	277,722	40,783	231,922	1,001,194	855,407	385,759	1,434,904	2,676,079

Coal—Less Production Than Year Ago

Reports by United States Bureau of Mines

	Montana	Wyoming	Colorado	New Mexico	Utah	Washington	Other	Total
October, 1944	464,000	834,000	677,000	141,000	545,000	125,000	1,000	2,747,000
November	426,000	802,000	663,000	145,000	590,000	118,000	2,000	2,836,000
December	473,000	874,000	718,000	135,000	580,000	128,000	2,000	2,915,000
Jan. 1945	460,000	956,000	760,000	153,000	660,000	140,000	2,000	2,911,000
February	390,000	792,000	730,000	130,000	540,000	128,000	1,000	2,761,000
March	472,000	890,000	763,000	157,000	620,000	140,000	1,000	3,043,000

FROM THE RESEARCH DIVISION OF WESTERN INDUSTRY

Employment—Eleven Western States

Estimated Number of Employees in Non-Agricultural Establishments—In Thousands—Source: U. S. Bureau of Labor Statistics

ALL INDUSTRY DIVISIONS

	Montana	Idaho	Wyoming	Colorado	New Mexico	Arizona	Utah	Nevada	Total Mountain	Washington	Oregon	California	Total Pacific
July	110	95.1	62.6	265	79.5	107.0	155	41.6	916	645	336	2,599	3,580
August	110	94.1	62.9	264	79.7	105.9	154	41.5	912	643	342	2,617	3,602
September	109	97.6	62.2	267	79.4	105.2	151	40.3	912	650	344	2,591	3,585
October	109	96.9	61.9	267	79.1	105.0	149	38.9	907	645	339	2,579	3,563
November	109	97.5	61.6	266	78.8	105.9	149	38.7	907	642	339	2,547	3,528
December	112	97.3	63.2	270	80.5	110.4	151	39.3	924	645	344	2,570	3,559
January	102	92.7	60.5	257	77.9	108.1	139	37.9	875	624	361	2,504	3,489
February	101	92.9	59.8	257	78.0	108.1	138	38.1	874	621	353	2,506	3,480
March	102	92.6	60.5	258	79.5	109.5	137	38.6	878	619	347	2,487	3,453

MANUFACTURING

	Montana	Idaho	Wyoming	Colorado	New Mexico	Arizona	Utah	Nevada	Total Mountain	Washington	Oregon	California	Total Pacific
July	13.1	16.0	4.4	49.2	5.1	16.4	34.2	3.0	141	268	137.1	953	1,358
August	13.2	14.3	4.7	47.7	5.1	16.9	33.0	3.0	138	264	141.6	964	1,370
September	12.9	17.3	4.7	47.2	5.1	16.8	29.9	2.6	137	267	144.8	942	1,354
October	14.0	16.7	5.0	49.4	5.1	17.2	30.8	2.3	141	266	140.1	918	1,324
November	13.2	14.7	4.8	48.3	5.0	18.1	28.5	1.9	135	254	138.1	877	1,269
December	12.6	13.1	4.2	44.9	5.1	18.9	26.1	1.8	127	251	162.8	854	1,268
January	12.0	13.2	4.3	46.4	5.3	19.5	26.5	1.8	125	249	154.9	847	1,251
February	12.0	13.2	4.3	46.4	5.3	19.5	26.5	1.8	125	249	154.9	847	1,251
March	11.9	13.5	4.2	47.2	5.1	19.4	22.5	1.7	126	247	147.0	824	1,218

The trend of decreasing employment that set in shortly after the peak period had been reached in California in 1943 continued in May, according to figures released by the California Division of Labor Statistics. Its report says:

The decline was felt even in the non-durable goods industries in which those employed declined from 191,600 in April to 188,000. With the total factory force in California a year ago numbering 828,900 workers, the figure has now shrunk to 669,700. In the rubber industry employment figures dropped from 15,700 in April to 14,300 in May.

In wages this was reflected by a more than 25 per cent decrease below the average for 1943 at the peak. Industrial payrolls in the state totaled for May \$37,440,000 as compared with \$50,040,000 for September, 1943, on a weekly basis.

Administrative, supervisory, sales, technical, office personnel and force-account construction workers in California were estimated at 878,000 in May compared with 919,000 in April and 1,071,000 in May of 1944.

EMPLOYMENT—DURABLE GOODS INDUSTRIES

(Figures from Calif. Div. of Labor Statistics)

	San Francisco	Los Angeles	Total
December	182,300	290,400	565,900
January 1945	178,600	288,400	558,700
February	175,700	287,200	555,800
March	161,600	283,700	537,700
April	148,100	272,500	512,800
May	140,500	254,000	481,700

Oil—Deliveries Drop

Total deliveries of oil products in the Pacific Coast territory including the five states of California, Oregon, Washington, Arizona and Nevada, dropped 13,000 barrels below the April figure for daily production, according to the Bureau of Mines.

During the same period crude oil production and runs to stills rose perceptibly with production experiencing a daily increase of 25,000 barrels a day to 942,000. Refinery utilization jumped 58,000 barrels on a per diem basis for a total of 945,000 barrels. Production of residual fuels likewise rose as a result of refinery operations.

Total amount delivered by the oil companies in the Pacific Coast area, including all deliveries to the federal government and any offshore shipments and including transportation and other losses, is as follows:

	All Products (Bbls.)	1944	1945
January	993,000	1,066,000	
February	1,011,000	1,124,000	
March	1,018,000	1,068,000	
April	954,000	1,148,000	
May	900,000	1,135,000	

Iron—Ore, Pig and Steel

IRON ORE SHIPMENTS FROM MINES

(Reported by Bureau of Mines)

	Utah	Wyoming	Calif.	Total
January	175,735	65,318	35,205	274,258
February	138,594	53,619	16,251	208,414
March	182,576	58,934	18,291	260,401
April	190,157	45,253	32,065	267,475

Pig iron and steel production for the Western area of the United States are reported by the American Iron and Steel Institute in net tons as follows:

	Percent of capacity	Year to date	Percent of capacity
Pig Iron:			
January	172,223	71.5	172,223
February	151,409	69.6	323,632
March	171,151	71.0	494,783
April	162,738	69.7	657,521
May	149,184	61.9	806,705
Alloy Steel*:			
January	2,549	-----	2,549
February	3,489	-----	6,038
March	5,475	-----	11,513
April	2,474	-----	13,987
May	4,423	-----	18,410

	Percent of capacity	Year to date	Percent of capacity
Steel Total:			
January	367,927	88.2	367,927
February	333,170	88.4	801,097
March	369,642	88.6	1,074,467
April	344,695	85.3	1,419,142
May	308,784	74.0	1,727,926

	Percent of capacity	Year to date	Percent of capacity
Carbot Ingots, Hot Topped*:			
January	52,514	-----	52,514
February	54,049	-----	106,563
March	60,138	-----	165,013
April	51,498	-----	214,511
May	37,426	-----	251,937

*Included in total steel.

Canned Goods—Carryover

Carryover on fruits and vegetables as of June 1, 1945 show practically bare shelves despite the greatest movement in the last year of peaches and apricots in history. The peach pack for 1945 will probably be as large as last year's; that of apricots will be large but not up to the figure for 1944.

Statistics of the carryover, exclusive of those sold to the government, as supplied by the Canners League of California, are as follows:

	CASES	No. 2 1/2 Can Basis
Apricots	169,551	
Cherries	1,643	
Pears	48,945	
Free Peaches	4,187	
Cling Peaches	205,279	
Fruit Cocktail	117,946	
Tomatoes, round	121,026	
Italian		
juice	275,590	
puree	85,393	
catsup	34,307	
sauce and hot sauce	382,986	
other tomato products	16,524	

Freight

Total traffic figures for the railroads in the Far West are as follows:

	Loadings	Eastern connections	Total
Jan. 1945	564,860	375,156	940,016
February	529,358	379,734	909,092
March*	667,606	484,349	1,151,955
April	523,134	361,902	885,036
May*	616,482	452,552	1,069,034
June	598,212	399,971	998,183

*Five weeks reported.

Ships—Manpower Still Acute

Shortages persist in several of the crafts most vital to ship repair activities that are now the dominant consideration of West Coast shipyards. In particular, adequately trained men in the following crafts are especially hard to get: sheet metal workers, electricians, marine machinists, coppermiths, instrument men and ordnance workers.

Extension of the 11.6 per cent differential in pay for ship repair over new ship construction is having some effect in Southern California yards; at least the amount of work being done there at present is substantially greater than in recent months, according to reports.

	Keels Laid	Ships Launched	Ships Deliv'd	Thousands of Deadwt. tons
1945				
Jan.	50	52	52	523
Feb.	42	45	55	567
Mar.	50	50	55	612
April	43	50	47	487
May	38	46	53	534

(Includes destroyer escorts and small aircraft carriers, but not larger naval vessels built by the navy itself. Also includes concrete barges, but not tugs or wooden barges. Tonnage figures from September on are adjusted, previous months unadjusted. Deadweight tons are used as a rough measure of the cargo carrying capacity of the ship. All figures from U. S. Maritime Commission statistical department.)

THE TREND

The ODT's order against loading of civilian freight on week-ends forecasts more disruptions of the civilian economy in the West in the coming months. Offshore and mainland demands of the Army and Navy can be expected to increase as the operations in the Pacific grow. Ordnance production has only been slightly trimmed in the West, in contrast to some deep cuts elsewhere. Talk of additional automobile assembly plants on the West Coast has sprung up, but nothing about whether any of the first new automobiles manufactured in Detroit will be assembled out here.



**Calls for
QUALITY VALVES
• FAST SERVICE**

**WITH GREENBERG
"TITE-TEST"**

BRONZE

**Gate
Globe
Angle
Cross
Check
Hose**

VALVES

**Valve and Fitting JOBBERS
can give SUPER-SERVICE**

STABILITY
Since 1854

M. GREENBERG'S SONS
765 FOLSOM STREET ★ SAN FRANCISCO, 7

THE WEST ON ITS WAY

ARIZONA

MINE EXPANSION—Western Gold Mines, Inc. is enlarging facilities at Crown King. Several more mines will be producing, and its selective flotation mill is now treating 100 tons of dump ore daily from the Tiger property. Recoveries of zinc, lead and copper are reported with some gold. Another jig plant will be added to the mill, and other improvements made to prepare for a program which calls for treatment of 200 tons of dump ore, 60 tons of mine ore, every 24 hours.

CALIFORNIA

PURCHASE—The Solar Aircraft Company has purchased the precision casting division of B. F. Hirsch, Inc., New York. The new firm, to be operated on an expanded scale as a subsidiary of the purchaser, will be known as Solar Precision Castings, Inc.

WAR CONTRACTS—Utility Trailer Manufacturing Co. of Los Angeles has been awarded contract for \$2,104,650 worth of eight-ton ammunition trailers, and National Supply Co., Torrance, \$2,869,124 worth of landing gear.

GUAYULE PLANT SUPPLEMENT—The Defense Plant Corporation is financing two new additions by the Firestone Rubber Company to the present guayule mill installed at Bakersfield at a cost of \$450,000. The new rubber processing plants will cost approximately \$800,000.

EAST-WEST EXPANSION—Harvill Corporation, die and pressure mold casting firm, has established a plant at Jefferson and Lawton streets, Fall River, Mass. The new plant comprises 9,000 square feet and will be operated by the Harvill New England Corporation, a wholly owned subsidiary.

CHANGE OF NAME—The Aeronautical Chamber of Commerce of America, Inc., has changed its name to Aircraft Industries Association of America, Inc.

71 Ways to Expedite
Power Plant Maintenance

**DESCRIBED IN NEW,
FREE OAKITE DIGEST**

If you are interested in conserving time and effort on 71 essential maintenance jobs . . . for example, cleaning heat exchangers, descaling cooling systems, stripping paint from transformers and similar operations . . . you will find this helpful Oakite Power Plant Maintenance Digest valuable. Write nearest address below for your FREE copy.

OAKITE PRODUCTS, INC.

LOS ANGELES (12) . . . 1001 East First St., Tel. Madison 1544
SAN FRANCISCO (7) . . . 115 Townsend St., Tel. Douglas 5640
OAKLAND (7) . . . 1505 Wood St., Tel. Glencourt 2750
SAN DIEGO (1) . . . 310 Fifth Ave., Tel. Franklin 0312
SEATTLE (4) . . . 95 Connecticut St., Tel. Main 1207
PORTLAND (9) . . . 1238 N. W. Glisan St., Tel. Broadway 1281
DENVER (2) . . . 1700 15th St., Tel. Main 3221

OAKITE **CLEANING**
MATERIALS, METHODS, SERVICE FOR EVERY CLEANING REQUIREMENT

STEEL DISTRIBUTION WAREHOUSE—Earle M. Jorgensen Co., steel distributors, are building an additional warehouse, 80 x 330 ft., on their Los Angeles property. It will be devoted exclusively to the handling of plates and is especially designed for that purpose.

AUTOMOTIVE CHEMICAL COMPOUNDS—Durkee-Atwood Co., 5382-5396 Alhambra Ave., Los Angeles, will begin manufacture of automotive chemical compounds, as well as having warehousing facilities for complete line of rubber, plastic and chemical products made at its Minneapolis headquarters. Ten thousand square feet will be utilized.

COSMETIC MANUFACTURING PLANT—Avon Products, Inc. has purchased a 1/2-acre tract on Foothill Blvd., Pasadena, and will erect a manufacturing plant as soon as war restrictions permit. The new plant will produce complete line of cosmetics.

HIGH OCTANE GASOLINE PLANT—General Petroleum Corporation of California, 108 West Second St., Los Angeles, plans to build \$3,000,000 plant at Torrance to increase production of high octane gasoline. New structure will be 196 feet and will have a capacity of from 13,000 to 15,000 barrels of components daily.

RADIO RECEIVING SET ASSEMBLY PLANT—The Colonial Radio Company, a subsidiary of the Sylvania Electric Products Company of Buffalo, N. Y., will erect a factory on a 14-acre tract in Riverside adjacent to a Southern Pacific line and near the Santa Fe and Union Pacific railroads. The plant will have a floor space of 60,000 square feet and will be modern in type.

DPC AUTHORIZATION—Defense Plant Corporation has authorized the execution of a contract with Northern Transportation Company, Los Angeles, to provide truck transportation equipment at a cost of approximately \$60,000. Northern Transportation Company will operate these facilities in California, Utah and Nevada, title remaining in Defense Plant Corporation.

NEW GLASS FACTORY—Glass Containers, Inc., subsidiary of Fibre-board Products, Inc., has applied for priorities and is constructing a new glass factory in Antioch, Contra Costa County.

WELL CASING PLANT—Whitaker Machinery Works, San Jose, has purchased a site in the Laurelwood district and plans to construct a plant to manufacture well casings and sheet metal products.

DEHYDRATING PLANTS—Five Santa Clara County dehydrating plants will be built, as follows: Morgan Hill Cooperative Dryer, 4-tunnel \$25,000 plant; East Side Cooperative Dryer, San Jose, 4-tunnel \$20,000 plant; Campbell Cooperative Dryer, 12-tunnel \$100,000 plant; West Side Cooperative Dryer, San Jose, 12-tunnel \$100,000 plant.



Load or unload quickly! Rapid-Wheel Portable Gravity Conveyor saves valuable time in man-hours and truck-service-hours!

Bottlers realize the heavy toll of time and energy it takes to keep distribution on an "even keel." Gravity as the motivating power does the back-breaking job of carrying the load from truck to loading dock. . . . Save time and labor with 10' sections of Rapid-Wheel Conveyor!

The faster set-up and quick, easy assembly features of Rapid-Wheel Conveyors — equipped with patented Cam-Lock Supports — are available for your use!

Write today! Avail yourself of this time saver in 10' sections.

OFFICES IN PRINCIPAL CITIES

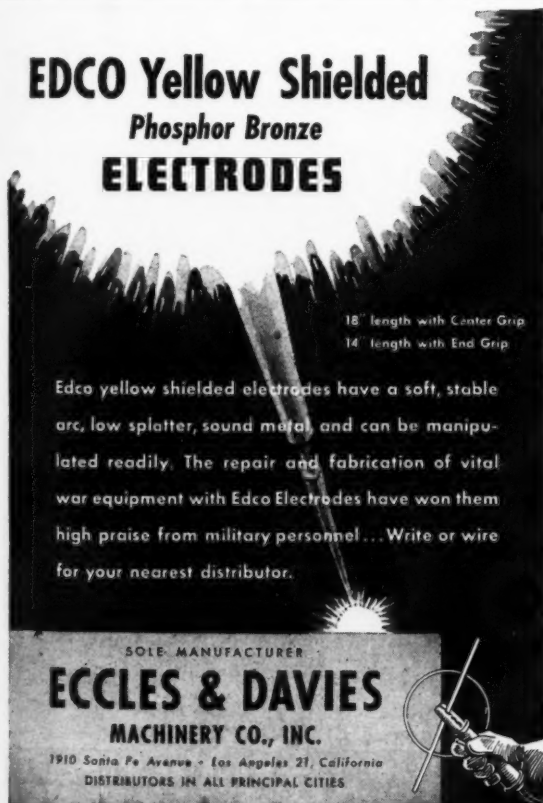


Manufacturers of
STEEL FORGED CASTERS • TRUCKS & CONVEYORS • POWER BOOSTERS

The Rapids-Standard Co., Inc.

Sales Div.—374 Peoples Nat'l Bank Bldg., Grand Rapids 2, Mich.

EDCO Yellow Shielded Phosphor Bronze ELECTRODES



INDUSTRIAL EQUIPMENT COMPANY

*Announces the following
change in location of
its Northern California Sales and
Service Organization*

**ADMINISTRATION AND
SALES OFFICES**

155 Sansome Street, San Francisco 4
Telephone DOuglas 6969

**GENERAL OFFICE, REPAIR AND
SERVICE FACILITIES**

10911 Russett Street, Oakland 3
Telephone SWeetwood 8877

*Southern California
Sales and Service Facilities
remain unchanged at*

4441 SANTA FE AVENUE, LOS ANGELES 11
Telephone KImball 7141

THE WEST ON ITS WAY

CANNING PLANT—Case-Swayne Co., 1661 Palm St., Santa Ana, has established a branch of its Merced plant, same address, for canning orange juice, pork and beans and other items to be added later.

INDUSTRIAL EXPANSIONS—Industrial Department of San Francisco Chamber of Commerce reported the following new plants and expansions with outlays of \$180,000 and 130 jobs: Bethlehem Steel Co., 3rd and Mariposa streets, San Francisco, \$250,000 steel frame wholesale building; The Macco Construction Co. of Oakland is taking over Old Mission Quarry, in Guadalupe Valley, San Mateo County, and will develop extensive operations there to include one large primary crusher, two large secondary crushers, an asphaltic plant, a concrete batching plant and pug mill.

WHOLESALE BUILDING—Bethlehem Steel Company, Third and Mariposa streets, San Francisco, has started construction on a \$250,000 steel frame wholesale building, as an addition to its San Francisco operations.

CREAMERY AND CHEESE MANUFACTURING PLANT—The Challenge Cream & Butter Association, 896-22nd Street, Oakland, is erecting a \$500,000 creamery and cheese manufacturing plant on a recently acquired full two-block site on Allston Way between 2nd and 4th streets in Berkeley.

ACQUISITION—Security Engineering Company, Inc., Whittier, will be acquired by Dresser Industries, Inc. of Cleveland, Ohio. Security Engineering Co., Inc., is a manufacturer of specialized oil well drilling equipment and tools, which will further round out the activities of the 13 Dresser member companies now serving the petroleum and gas industries.

FIRM PURCHASE—Menasco Manufacturing Co. has bought the Malabar Machine Co. of Los Angeles for \$425,000. Malabar will be operated as a products division of Menasco with offices at its present site.

NEW LOCATION—Consolidated Mattress Company, 6912 Santa Monica Blvd., former location 1006 North Sycamore Avenue, Los Angeles, is occupying its new building, where 5500 sq. ft. of floor area are available for manufacture of box springs and mattresses.



Detroit

**ELECTRIC HOISTS
PNEUMATIC HOISTS
ELECTRIC TRAVELING CRANES**

You begin saving time and money when you install a Detroit—Hoist or Crane. They operate overhead, keep working space clear, avoid floor handling confusion, and increase plant efficiency.

Various types are available. Tell us about your handling problems. We will make suggestions.



Ask for this bound set of illustrated bulletins on hoists and cranes.

DETROIT HOIST & MACHINE COMPANY

8215 Morrow St. Detroit 11, Mich.

NEW PACKING PLANT—L & L Packing Company, San Jose, packers of artichokes, peppers, broccoli in olive oil, etc., have purchased a 3½-acre plot in Santa Clara and will build a new plant costing approximately \$50,000. New location with 27,000 square feet of floor space will include 50x150 warehouse, 130x150 processing room, and will make possible an estimated 400 per cent increase in company output.

MERGER—Caltone Co., Anaheim, citrus juicer, has merged with Cal Citrus Processors.

PURCHASE AND EXPANSION OF BREWERY—Pacific Brewing & Malting Co. of San Jose has purchased the \$2,000,000 Calso Water Company of San Francisco and plans a new \$250,000 addition at the San Jose plant, Cinnabar Street and The Alameda, to house the Calso unit.

ADDITION TO PLANT—Union Oil Co., 617 West Seventh St., will construct a maintenance building and warehouse at its Wilmington plant at an estimated cost of \$590,000.

CLOTHING PLANT—Lou Kornhandler Co., 1024 Santee St., Los Angeles, will erect a new plant at 152 West Adams Blvd., containing 10,000 square feet. Ladies' and misses' suits and sportswear is type of clothing manufactured.

NEW FROZEN FRUIT PLANT—Best Frozen Fruit Company has purchased property at Grant and Clay Streets, Santa Clara, for a new \$45,000 plant. Best's, with headquarters in San Francisco, operates a frozen fruit plant during season in Santa Clara at 1195 Sherman Street.

NEW MACHINE SHOP—George Bailey and Merrill Adams, San Jose and Los Gatos machine shop operators, have filed an application for priorities to build a new \$12,000 shop on Clay Street near Jefferson in Santa Clara.

NEW BRANCH LABORATORY—The American Can Co. will establish a new branch laboratory at Los Angeles to serve the packing and canning industry of Southern California.

LUMBER MILL—The Sierraville Lumber Co., Sierraville, is constructing a lumber mill with 40,000 board feet capacity to occupy a 16-acre site.



Stitch with Steel the **FASTEST** way to **STRONG CLOSURES**

Rapidly formed steel stitches drive continuously through tough boxboard, patterning into balanced-strength joints and closures. That's stitching with steel . . . the *fastest* way to strong carton closures.

Stitching with steel saves manpower by speeding production — provides stronger, neater containers — all in an economical operation that is a Silverstitcher feature.

Acme Silverstitchers are power driven machines that form staples from continuous long length coils of steel wire . . . Silverstitch Stapling Wire. Silverstitchers have few moving parts . . . vital parts reversible for long service. The result: *Years of top performance* through simplicity of operation.

For a photo story on Silverstitchers, complete with facts and specification data on stitching with steel, write today.

ACME STEEL COMPANY

LOS ANGELES, 11,4907 Pacific Blvd.
SEATTLE, 4, 1027 Sixth Ave.

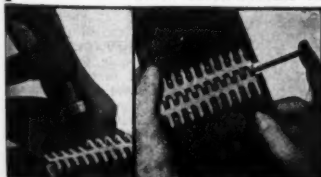
SAN FRANCISCO, 7, 430 Bryant St.
PORTLAND, 9, 524 N.W. Davis St.

ALSO MANUFACTURERS OF ACME STEELSTRAP AND STRAP APPLYING EQUIPMENT

KEEP YOUR BELTS RUNNING

1. Inspect your belts and fastenings frequently.
2. If you find that the lacing is badly worn and the belt joint is badly frayed or worn relace the belt with Alligator Steel Belt Lacing.
3. Don't throw worn belting away. Worn belting can be reconditioned or you can easily make up a serviceable belt by cutting out the best sections of old belts and then splicing them together with Alligator Steel Belt Lacing.
4. Be sure and use the size of Alligator Steel Belt Lacing recommended for the thickness of belt to be spliced.
5. Where belts are to be laced that are wider than the standard lengths of 6, 8 or 12 inches, Alligator Belt Lacing is available in continuous lengths for any width of belt. The continuous length is easier to apply and makes a more uniform and longer lasting joint.
6. Write for our Bulletin A-60 that gives complete details on how to lace flat belts of leather, rubber, balata, canvas, from 1/16" to 5/8" thick and as wide as they come.

JUST A HAMMER TO APPLY IT



● Lacing can be applied right at the location of the belt without even taking the belt off the line shaft. Alligator has strength with long life, compression grip, is smooth on both faces and the joint is easy to take apart at any time regardless of the amount of wear.

FLEXIBLE STEEL LACING CO., 4642 Lexington St., Chicago

ALLIGATOR

STEEL BELT LACING

For more than 30 years the most universally used steel belt lacing in the world.



Bigger Stocks for Better Service at **PACKING & GASKET**

Headquarters.....

● WITH more than 400 separate types and varieties of J-M packings and gaskets now in stock, Bay Cities Asbestos Company can offer immediate delivery on virtually every item in the well-known Johns-Manville line.

Now's the time to get your pumps, engines, boilers, piping and valves back into proper shape with longer-lasting J-M packings and gaskets . . . check your needs against this J-M list:

- **ROD, PLUNGER & VALVE STEM PACKING**
Sea Rings; Asbestos Fabric; Braided and Twisted Asbestos; Rubber and Duck; Flax and Jute; Flexible Metallic; Plastic.
- **MOULDED PACKING**
- **PISTON PACKING**
- **SHEET PACKING**
- **GASKETS and GROOVE PACKING**
- **ASBESTOS GASKETING TAPES**
- **ASBESTOS WICK, ROPE and CORD**

PHONE:

San Francisco: Enterprise 10552
Oakland: Glencourt 2345
or Stockton 55638

for prompt
and helpful service



BAY CITIES ASBESTOS CO.

DISTRIBUTORS • CONTRACTORS

SAN FRANCISCO OAKLAND STOCKTON

J-M INSULATING MATERIALS • PACKINGS • REFRACTORIES
J-M ASBESTOS ROOFINGS • ASBESTOS SIDING • BUILDING MATERIALS
LED-PLATE • TITE-SEAL • ENSIGN ROPE, CANVAS,
METAL AND BELT PRESERVER

THE WEST ON ITS WAY

FONTANA REMODELLING—Kaiser Co., Inc., Iron and Steel Division, Fontana, will spend \$1,495,700 to remodel plant and install new machinery for rolling sheet steel 3/8-in. and thinner. Another improvement will be a unit to salvage gas now going up blast furnace chimneys, mix it with coke oven gas and use as fuel in place of oil. This unit will cost \$99,150.

COLORADO

PLAN FOR MERGER—Colorado Fuel & Iron Corporation has submitted to Wickwire Spencer Steel Co. a plan for the merger of the two companies.

BYPRODUCTS PLANT—A large new byproducts plant has been completed by the Colorado Fuel & Iron Corporation in its Minnequa works to take over the load of the old benzol plant and to expand the list of coke oven byproducts, the old plant being used as a stand-by.

IDAHO

ENLARGEMENT OF FACTORY—The Jerome Food Products Company, Jerome, dehydrating plant will be enlarged in anticipation of a larger contract for next season.

PHOSPHATE ROCK CRUSHING PLANT—Simplot Fertilizer Co., Pocatello, is planning a \$100,000 steel and concrete phosphate rock crushing plant.

OREGON

FIR VENEER PLANT—The Guerrier Lumber Co. is constructing a \$73,000 fir veneer plant at Springfield, adjacent to its sawmill.

PLYWOOD PLANT—Bestline Corporation, Lacey, subsidiary of the Davis Plywood Corp., is constructing a concrete block and floor construction building 80x250 feet, designed with no inside posts, thus giving a clear working space of 20,000 square feet.

Here Comes the Hot Coffee



Have a Java, Big Boy!

A Welder Gets Hot Coffee at His Work

Hundreds of industrial War plants serve hot coffee the "AerVoId Way" to workers at their work. Indoors, outdoors or night shift, it's all the same to "AerVoId's." Coffee prepared in the plant or brought in from outside. Hot coffee anywhere in a big plant is easy with "AerVoId's" . . . and a great morale-builder. Let us show you how little it costs.

WRITE FOR PRICE LIST NO. 45-AA

Vacuum Can Company

25 South Hoyne Ave.

Chicago 12, Ill.

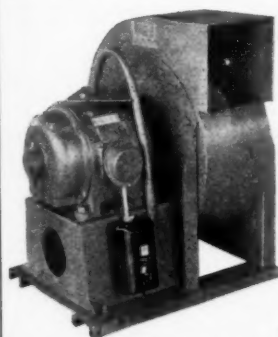
"AerVoId" Vacuum Insulated Carriers for
Storing, Transporting, Serving HOT COFFEE

ELECTRICALLY OPERATED PLYWOOD PLANT—The newly formed Myrtle Creek Lumber Co., Myrtle Creek, will begin construction of a \$700,000 electrically operated plywood plant on the site of the burned-down Umpqua Lumber Co. mill.

PURCHASE OF LUMBER HOLDINGS—The Long Bell Lumber Co. has announced purchase of the Snellstrom Lumber Company holdings at Vaughn, eight miles west of Eugene, for an estimated \$1,000,000.

REMODELLING AND EXPANSION OF BREWERY—Sick's Salem Brewery purchased a 140x165-foot reinforced concrete building adjacent to its present plant for \$65,000 and will spend approximately \$110,000 remodeling and equipping for use as a bottling plant. Cost of construction is expected to run between \$35,000 and \$50,000 with the remainder of the \$110,000 to be used for machinery.

FELT MANUFACTURING PLANT—The Pacific Roofing Company, 6350 N.W. Front Avenue, Portland, has started the operation of its new felt mill, a 50x200-foot structure representing an outlay of \$90,000.



ALADDIN BLOWERS

- EFFICIENT
- ECONOMICAL
- SERVICEABLE

Available for Immediate Delivery

Our line includes the "BB" fans of the backward curved blade type and the "FC" fans of the forward curved blade type for general ventilation. The "EX" fans for exhausting and conveying dust, fumes, shavings, etc. "RB" fans for general exhaust duty where there is danger of "blade loading" due to grease, etc. "HP" fans for small volumes at higher pressures.

Write us about your problems

ALADDIN HEATING CORPORATION

2222 SAN PABLO AVE.

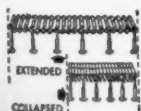
OAKLAND, CALIF.

FMC ACCORDION CONVEYOR

Sets Up Anywhere
In A Few Minutes

AVAILABLE NOW!

Portable, extensible, collapsible and flexible, comes in as many sections as you want... will take your packages around curves or S turns...and when not in use can be folded up, ready to use again in a jiffy! In time, space and labor saving, this conveyor is a downright economy. Detailed information on FMC standard and portable conveyors on request. Address Dept. F.



Roller design keeps box on conveyor regardless of curves.

FOOD MACHINERY CORPORATION

RIVERSIDE DIVISION: RIVERSIDE, CALIFORNIA



This Meriam High Pressure Manometer (Model A-306) is tested at 4000 lbs. pressure. It is a direct reading, well type unit and fully meets the needs for an instrument to measure differential pressures for line pressures of 1200 to 1500 psi.

It consists of a machined alloy steel bar grooved for the gauge indicating liquid, held tightly against a heat treated glass bar by a rigid steel housing with an opening for readings.

This instrument is built in both wall and floor mounting models in ranges up to 40"; others upon special order. Send for Bulletin C.

THE MERIAM INSTRUMENT CO.

10928 MADISON AVE. • CLEVELAND 2, OHIO
WESTERN DIVISION: 1418 WILSON AVE., SAN MARINO 9, CALIF.
IN CANADA: PEACOCK BROS., LTD., MONTREAL

MERIAM
★
Instruments
★

ESTABLISHED 1911

MANOMETERS, METERS AND GAUGES FOR THE ACCURATE MEASUREMENT
OF PRESSURES, VACUUMS AND FLOWS OF LIQUIDS AND GASES

3 Reasons Why STONHARD RESURFACER Solves Floor Problems

1 PATCHING...

Ease of application makes STONHARD RESURFACER particularly valuable for patching ruts, holes and breaks in floors.

BECAUSE: Stonhard Resurfacer does away with heating of materials and chopping up the old surface.

2 TRUCKING SURFACES...

STONHARD RESURFACER can be laid down where it is needed most, where trucking is heaviest. Stonhard Resurfacer proves most beneficial here as it actually improves with heavy trucking traffic.

BECAUSE: Stonhard Resurfacer forms a hard, tough, yet resilient surface.

3 COMPLETE FLOOR RESURFACING...

Its excellent, enduring and elastic qualities make complete overlays with STONHARD RESURFACER ideal not only for existing surfaces, but also for new construction as well.

BECAUSE: Stonhard Resurfacer is easy and economical to apply . . . does not require skilled labor.

**STONHARD RESURFACER CAN BE
APPLIED OVER ANY TYPE OF FLOOR**
Concrete, Wood, Brick or Composition

TRIAL OFFER

A drum of STONHARD RESURFACER will be sent on trial to any responsible firm or institution. Test its performance for 30 days under actual working conditions. If not satisfactory, we will cancel our invoice.

STONHARD COMPANY

Building Maintenance Materials

Serving the Railroads, Utilities and Industries Since 1922

401 N. BROAD ST., PHILADELPHIA 8, PA

*Write for
FREE FOLDER
"No Need for
Floor Sculpture"
No Obligation*

STONHARD COMPANY
887 Terminal Commerce Bldg.
Philadelphia 8, Pa.
Please send us more detailed information on STONHARD RESURFACER.

FIRM.....
ADDRESS.....
MR.....TITLE.....
CITY.....ZONE.....STATE.....

THE WEST ON ITS WAY

BATTERY MANUFACTURING PLANT—The National Battery Co. of St. Paul, Minn., has purchased property for a branch manufacturing plant in Salem, with the intention of building a two-story building to cost approximately \$175,000.

MACHINE SHOP—M. L. Granning, Portland, will build a \$10,000 machine shop at S.E. Oak and Sandy Blvd. to serve as an auto parts rebuilding shop as well as for repairing electric motors.

CHEESE PLANT—Svend Knutsen, owner of the Reedsport Creamery & Cheese Factory, is planning to construct a \$50,000 plant at Reedsport.

COLD STORAGE BUILDING—Hamilton J. Webert, Tieton, is building a concrete storage building to cost about \$25,000, 54x120 feet, for storage of apples and pears.

PACKING PLANT—Swift & Co., Klamath Falls, is constructing a building at a cost of \$26,000 to house the firm's meat packing and refrigeration operations.

RETAIL LUMBER YARD—Fred G. Mauser, Dilley, has made plans for the construction of a retail lumber yard at a cost of \$50,000 at The Dalles. The new plant will be known as the Fred G. Mauser Lumber Co.

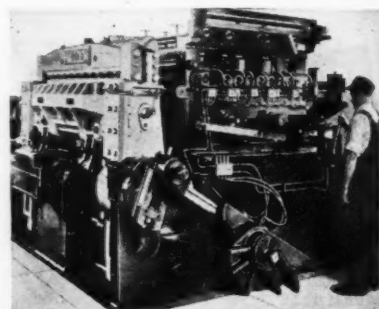
GREYHOUND TERMINAL—Greyhound Bus Lines' plans include construction of a \$70,000 passenger depot for Salem; Medford terminal, \$70,000; additional maintenance facilities in Portland, \$75,000; Oregon City improvements, \$45,000, besides the \$45,000 passenger bus terminal now under way at Roseburg.

WASHINGTON

COLD STORAGE AND VEGETABLE REFRIGERATION PLANT—The Austin Company, Dexter Horton West Building, Seattle, is building a concrete combination cold storage and vegetable refrigeration plant to cost approximately \$80,000 at Dayton.

RECONVERSION OF MAGNESIUM PLANT—Union Carbide and Carbon Co.'s magnesium plant in Spokane is being reconverted to a sodium plant.

HOW TO LUBRICATE ALL OF YOUR BEARINGS



at once —run dividends into big totals

● *Guillotine Shear (illustrated) "beheads" wastes* — of lubricant, manpower, production time. One man from a safe point lubricates every bearing in 60 seconds, without stopping the shear.

On a plate mill a Farval System costing \$3,000.00 saved \$15,000.00 per month by reducing rejections.

Former bearing replacements of \$800.00 in 3 months were eliminated on 2 overhead cranes by Farval.

Farvalize as you reconvert—save labor, save lubricant, avoid delays. Send for your nearby Farval Representative today. The Farval Corporation, 3269 East 80th Street, Cleveland 4, Ohio.

San Francisco Los Angeles
Portland Seattle Denver

Affiliate of The Cleveland Worm & Gear Company, Industrial Worm Gearing



WAREHOUSE AND OFFICE BUILDING—A. M. Castle & Co. have taken bids on a warehouse and office building to be erected at 3648 East Marginal Way, 140x460 feet, steel frame, to cost about \$200,000. Two five-ton electric traveling cranes will be installed.

STORAGE PLANT—West Coast Fish Co., Aberdeen, is building its new plant estimated at \$30,000, 31x131 feet in area.

ASSEMBLY PLANT—The McIlvanie Machine Works will construct a \$12,000 assembly plant behind its present machine works.

NAVAL PIER—Construction of a \$3,000,000 pier at the naval magazine at Bangor, near Bremerton, has been ordered by the Navy. The pier will be 72½ feet wide and 1,180 feet long.

FRAME ADDITION—The Green Garden Food Products Co. of 900-908 Aloha Street, Seattle, are building a \$20,000 frame addition to their present plant.

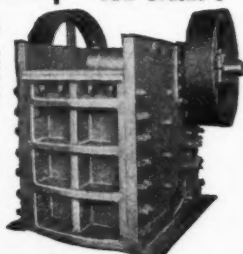
GRUENDLER CRAFTSMANSHIP Serving Industry over 50 Years

Peak Production at Low Cost

Manufacturers of Limestone Pulverizers, Gravel or Rock Crushing and Screening Plants, Conveying and Screening Equipment, Chemical Grinders and Mixers.



Write for Data and Illustrated BULLETINS about our Lifetime Crushing Equipment



Heavy Duty Jaw Crushers

150 to 200 tons per Hr. Crushing Steam Shovel Rock to 5' and 6' minus. Size 24 x 42 wt. 54,200 lbs.

GRUENDLER
CRUSHER and PULVERIZER CO.
2915-17 North Market St., ST. LOUIS (6), MO.

WANTED PRECISION PATENTED ITEMS

We will purchase Patented items or Manufacture on Royalty Basis

Parts needing Highly skilled Precision machining, Center-boring, threading Polishing and lathe Turning

YOU CAN
DEPEND
ON

TURRET
AND
ENGINE LATHE
PRODUCTS

Phone THornwall 1131

De Young Bros. MACHINE SHOP

8721 METTLER STREET • LOS ANGELES 3, CALIFORNIA

LOW COST Rust Prevention!

**USE HARPER NON-FERROUS
AND STAINLESS FASTENINGS**

Rust is the Great Destroyer. Every year it causes damage of "war debt" proportions.

Fortunately, the cost of preventing rust and corrosion through the use of Harper Everlasting Fastenings is low. Of course, the first cost of a bronze bolt or a stainless screw is more than a comparable fastening made of common steel. Yet the difference in price is small, particularly when considered in relation to the total cost of a machine, instrument or other fastened assembly. Everlasting fastenings add longer service life to your product...and the ability to perform under tough conditions. Such qualities provide a big advantage over competition.

4360 ITEMS IN STOCK

Harper is known as "Headquarters for Non-Ferrous and Stainless Fastenings" . . . carries large and complete stocks of 4360 different items and is continually adding others . . . maintains large stocks of metals in bars, rods, wire, sheet and other basic forms from which special fastenings can be quickly made. Write for 1945 Catalog.

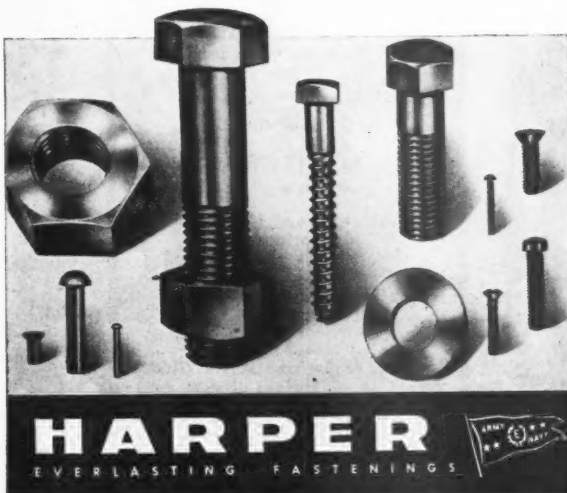
THE H. M. HARPER COMPANY

2649 Fletcher Street • Chicago 18, Illinois

210 W. 7th Street, Los Angeles 14, California

7 Front Street, San Francisco, California

Exchange Bldg., Denver, Colorado



HARPER
EVERLASTING FASTENINGS

BRASS • BRONZES • COPPER
MONEL • STAINLESS



Heat-treating solves the problem of fast production

Increased loads and speeds of modern gearing call for gears made of alloy-steels, heat-treated to give maximum results. The Johnson Gear heat-treating department is fully equipped with gas and electric furnaces—quenching tanks and automatic electric recording instruments that fully guarantee each step of modern heat-treating. Steel ordered to exacting specifications—test-pieces carefully checked to insure proper treating—all heat-treated according to standard practices.



JOHNSON GEAR & MANUFACTURING CO., LTD.

MAIN OFFICE AND WORKS: BERKELEY, CALIFORNIA

BETTS SPRING CO.

Manufacturers of

SPRINGS

In San Francisco Since 1868

•
LEAF SPRINGS
For autos, trucks and
Tractors

•
COIL SPRINGS
for
Railroad Equipment

•
**Locomotive and Heavy Duty
Springs**

•
**Machinery, Pump and Valve
Springs**

•
**Brass, Bronze and Music Wire
Springs**

Made to Order by

BETTS SPRING CO.

868 Folsom Street

San Francisco

Phone Sutter 3226

THE WEST ON ITS WAY

WASHINGTON

RESIN PLANT—The Reichhold Chemicals, Inc. of Detroit, plan immediate construction of a large new synthetic resin plant in Seattle's Duwamish Waterway industrial area. The plant will be completely modern in design and will produce largely adhesives for plywood and timber lamination and synthetic resins for coatings.

TRUCK FACTORY—The Kenworth Motor Truck Company plans construction of the largest truck and bus manufacturing plant west of the Mississippi at an estimated cost of \$300,000 on the property owned by the Pacific Car and Foundry Company. The new construction and other units will provide 200,000 square feet of floor area, to be devoted exclusively to the manufacture of heavy-duty trucks and buses.

FLOATING CANNERY—As part of a huge fishing and cannery project, the steamship Mormacrey, an 8,800-ton freighter, will be converted into a floating cannery at the plant of the Bellingham Iron Works. The Pacific Exploration Company of Seattle, which will operate the vessel, has negotiated a contract with the Bellingham company. The plant is to can the giant Alaska crab in the summer and tuna in the winter off the Mexican and California coasts.

ARMY CONTRACT—A contract for Boeing C-97 transport airplanes has been placed with the Boeing Aircraft Company by the Army Air Forces. Three types are to be built at the company's headquarters plant No. 2 in Seattle.

STEEL WAREHOUSE CONSTRUCTION—A. M. Castle & Co., steel distributors, Smith Tower, plan to construct a steel warehouse and adjoining brick office building, estimated to cost about \$200,000.

DILIGENT EFFORT REWARDED—The Independent Insulations, Inc., has been authorized by the WPB to produce mineral wool in Tacoma from Tacoma smelter slag. The company will operate on the Pacific Carbine properties on Hylebos waterway.

BOEING HANGAR SUBCONTRACTS—Ten subcontracts have been awarded by Mowat-Sellen, 228-9th Ave. N., Seattle, for the construction of a \$1,147,491 industrial steel type experimental hangar at Boeing field.

FORGINGS

Skillful forging reduces finishing costs
Heat treating insures maximum strength

TINY OR TON SIZE—WE SPECIALIZE

Craftsmen in steel for two decades

ISAACSON

IRON *Seattle* WORKS

Portland Has 25 Aluminum Fabricators

Aluminum hot cake griddles manufactured in Portland are selling like the proverbial hot cakes themselves, some of the orders coming as far away as New Jersey. This is one of the features in the development of an aluminum fabricating industry in Portland in the last year.

There are 25 fabricators reported by the industrial department of the Portland Chamber of Commerce, as follows:

Hot cake griddles: Inca Metals
Cooking utensils: Ply-Metal Co.
Castings: Interstate Brass Foundry, Oregon Brass Works, Portland Foundry Co., Beaver Aluminum & Bronze Co., Central Brass & Iron Foundry, Commercial Iron Works, Harper Brass Works, Quality Brass & Aluminum Foundry, Service Bronze & Brass Works.
Die castings: Power Brake Equipment Co., Products Engineering Co.
Life Rafts: Gunderson Bros.
Pontoons: Oregon Shipbuilding Co.
Irrigation Pipe: Beall Tank & Pipe Co., Eyerly Tractor & Equipment Co.
Frozen food lockers: Beall Tank & Pipe Co.
Aircraft parts: Columbia Aircraft Industries, Olson Mfg. Co. Columbia Mfg. Co.
Light fixtures: Baker Barkon Co.
Heat control systems: Armstrong Heat Control.
Wind velocity equipment: Allen E. Chisholm
Trucks and trailer bodies: Transport Bodies, Inc., Wentworth & Irwin.

Farm Land Prices Rise in Northwest

War workers from the East and South are credited with the chief responsibility for the average 52 per cent per acre increase in farm land values in the Pacific Northwest over the 1935-39 average, as announced by the Department of Agriculture.

War workers have sent the prices of farm land climbing by as much as 66 per cent in some areas through their desire to invest in nearby agricultural opportunities rather than return to their native states after the return of peace.

Secretary Anderson's Western Background

Clinton P. Anderson, new Secretary of Agriculture, is a Westerner who has both agricultural and business experience.

Clint, as he is known in New Mexico, runs cattle and raises Palomino horses on his ranch near Albuquerque. Some 900 acres of his ranch are under irrigation.

He also owns a successful insurance business. Before his election to the 77th, 78th and 79th Congresses he was president of Rotary International, New Mexico state treasurer, head of the New Mexico Relief Administration, and later the state's

Unemployment Compensation Commissioner. He also managed the U. S. Coronado Exposition Commission in 1939.

Married and the father of two children, he possesses two degrees, one from Dakota Wesleyan University and the other from the University of Michigan. He was a newspaperman in South Dakota and New Mexico before entering the insurance business.

S. F. Leads West In Wholesale Sales

San Francisco leads all cities west of Chicago in wholesale sales in 1944, according to a recent announcement by its chamber of commerce which stated that the city's

wholesale transactions of \$2,983,000,000 was over \$200,000,000 ahead of its nearest western competitor.

The announcement also stated that San Francisco was now fourth in the nation as a wholesale trade center, being exceeded only by New York, Philadelphia, and Chicago.

Restrict Oil Movement

Heavy Navy and War Shipping Administration demands on the Pacific Coast for fuel oil for the war against Japan have made it necessary to prohibit further shipments of crude oil, asphalt and residual fuel oils from the Rocky Mountain States to the Midwest.

Casters

AND WHEELS

for
DOLLIES

CHAIRS

FURNITURE

HAND TRUCKS

INDUSTRIAL TRUCKS

FACTORY EQUIPMENT

HOSPITAL EQUIPMENT

Every kind and type of caster is carried in stock to suit your particular needs. Order by telephone from any of our three establishments or write for illustrated catalog.

COLSON

EQUIPMENT & SUPPLY CO.

LOS ANGELES 13
1317 Willow St.
Trinity 5744

OAKLAND 7
350 7 10th St.
Templebar 3556

SAN FRANCISCO 5
238 Mission St.
Garfield 0282

Albert Ramond & Associates, Inc.

Serving American Industry Since 1916

INDUSTRIAL ENGINEERS

Cost Reduction • Improved Wages
Production Management

Chrysler Bldg., New York 17 • Tribune Tower, Chicago 11
Ruess Bldg., San Francisco 4 • 200 Bay Street, Toronto 1

WESTERN TRADE WINDS

NEWS ABOUT THOSE WHO DISTRIBUTE AND
SELL INDUSTRIAL EQUIPMENT AND MATERIALS



gineer on the West Coast.

Stanley Mieth has been appointed head of the sales department for Santa Clara Packing Co., San Jose.

Don E. Wilcox, for the past ten years with USDA and recently Chief of Fruit-Vegetable WFA at San Francisco, has gone into business for himself as an institutional wholesaler, handling canned, dried, and frozen fruits and vegetables, with office and warehouse at 77 Minna Street, San Francisco.

G. P. Mandel is returning to the Columbus Plant of Surface Combustion Corp., Janitrol Aircraft Heater Division, and will work with Middle Western aircraft manufacturers on the application of Janitrol heaters to military vehicles and planes. Burton M. Sharpe is replacing Mr. Mandel as aircraft application en-

Southwestern Engineering Company of Los Angeles and its associated firm, Southwestern Engineering Company of P. I., Inc., have re-established themselves in the Philippine Islands and are housed in the Arala Bldg., Manila.

The George S. May Co. has established a Pacific Coast division with headquarters in the Russ Building, San Francisco. Washington, Wyoming, Idaho, California, Nevada, Utah, Arizona, western Colorado, and New Mexico, together with British Columbia, will comprise the new division.

Industrial Equipment Company announces change in location of its Northern California sales and service organization. The administrative and sales offices are at 155 Sansome Street, San Francisco 4; general office, repair and service facilities, 10911 Russett St., Oakland 3.

Pierce Ricker and Robert E. Williams, both veteran employees of the dissolved firm of Harron, Richard & McCone Company, recently opened their new business the Ricker-Williams Company, at 302 Fourth Street, Oakland. The sales organization includes Gordon Smith, Sam Muriale and W. B. Murden.



Gunnar Edenquist

White Motor Company equipment in truck repair and servicing. According to Wilson D. Patterson, Pacific Coast regional manager of the White Motor Company, the Lindner and Wood White Motor Sales of Salt Lake City, the Murphy-White Trucks of Seattle, the Jones-White Truck Co. of Spokane, and the West-Hitchcock Company of Klamath Falls, have all improved plants with new facilities.

Dave Smith, who has served in an engineering capacity at the Los Angeles plant of one of the country's largest manufacturers of oil well drilling machinery and as chief engineer of their plant in Houston, Texas, has accepted a position with Western Gear Works. His activities will be concerned with engineering of their oilfield products, the oilfield division being headquartered at the Lynwood plant.

Food Machinery Corporation has purchased the Dayton-Dowd Company, large independent pump company of Quincy, Ill., and will make it a branch of its Peerless Pump Division, Los Angeles, under direction of Clarence M. Frazier, vice-president.

(Additional Trade Winds on Page 94)

Safety One Man BARREL TRUCK



- No rocking — No lifting
- Trucker never touches barrel
- Automatic loading and unloading
- Sliding two-in-one chime hook
- Safe — no backstrain
- Balanced — truck carries load
- Easy rolling — Hyatt bearings

Safer, faster, easier way for one man to handle barrels, drums, kegs up to 1000 lbs. Chime hook engages rim and cast steel prongs slide under drum instant trucker pulls truck back. That's all there is to it! Rubber fired wheels. Write for New Catalog No. 43.

STOCKS CARRIED BY THESE WESTERN REPRESENTATIVES

Burt-Kline Co.
2415-17th St.
San Francisco 10

Washington Cycle &
Supply Co.
502-1st Ave., Seattle

L. W. Keenan
604 N.W. 6th
Portland

Geo. W. Goldard Co.
24th St. & Wall Ave.
Ogden

Murray Sales Co.
18 Wagon Market
Denver

W. T. Billard
536 W. Wash. Blvd.
Los Angeles

THOMAS TRUCK & CASTER CO.
1106 Mississippi River
Keokuk, Iowa

Save { BOILERS, UPKEEP, FUEL

WITH MAGIC BOILER PRESERVATIVE

Day by day, when using *soft* water, corrosion eats up tubes unless interior surfaces are correctly protected. When using *hard* water, insulating scale UPS fuel costs 10 to 12%. Either way you lose money.

Magic Boiler Preservative frees boilers of scale, prevents scale forming and stops corrosion.

Backed by 41 years of constant research and accumulated knowledge of how to protect boilers properly—at lowest cost—Magic *paints itself* on interior boiler surfaces. A simple periodic feeding of Magic into the water does the entire protective job.

Magic will not evaporate or distill over with the steam and can be used in processing industries without injury to products.

Free Show-Down Survey

Ask for a free boiler survey by our engineers. See if you are wasting fuel, having high maintenance or paying for maximum protection and not getting it.

Magic has won the highest praise for removing scale, preventing corrosion and keeping boilers operating at highest efficiency. Get all the facts now.

Write or Phone Today

MAGIC BOILER PRESERVATIVE
GARRATT - CALLAHAN CO.
of California

150 Spear St., San Francisco 5, Calif.
Phone DOuglas 3020

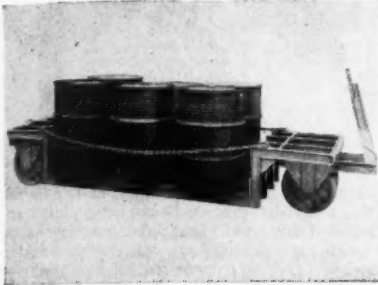
Warehouse Stocks in Principal Cities for Fast Delivery



THE SHOWCASE

239

Underslung Trailer—"Really getting down to earth" is one way of describing this illustrated trailer, in which an underslung design drops the platform down to within a scant few inches from the floor and providing an exceptionally low center of gravity for easy loading from floor, skid or rack. Platform is 38 in. wide by 78 in.



long, wheels are heavy metal, rubber-tired and roller bearing, and drums, barrels or other loads liable to shift are held secure by strong chains. Handles loads of 2½ tons easily, safely, quickly, and over-all length is 126 inches. *Palmer-Shible Co., 778 South Harrington St. Detroit 17, Mich.*

240

Toggle Clamp—As a means of holding work securely in jigs or fixtures during assembly and production operations, a "Push-and-Pull Lock" type of toggle clamp was introduced several months ago and is now supplemented by a larger model known as the De-Sta-Co Model 610. It can be quickly converted from "Push" to "Pull" action in a few seconds simply by relocating one of the handle bolts. Weight 1½ lbs., over-all length of 6¾ inches, with plunger rod travel of 1½ in. Rod is tapped to receive a ¾in.-16 standard threaded bolt, and finished in silvery-toned rust-resistant plating. *Detroit Stamping Co., Detroit, Mich.*

241

Cleaning Compound—Extremely powerful in its penetrating and emulsifying actions, a new heavy duty steam cleaning compound by the name of Steam-Off, has proved to be particularly effective in the removal of heavy, stubborn grease and dirt from iron and steel surfaces, concrete, brick, and structural materials, gasoline and diesel engines, steam shovels, tractors, locomotives, and road building machinery. This compound combines a high degree of quick cleaning energy with the maximum ability to soften water. Used as a stronger solution, Steam-Off has the ability to remove unwanted painted surfaces as it cleans. *Turco Products, Inc., 6135 South Central Ave., Los Angeles 1, Calif.*

242

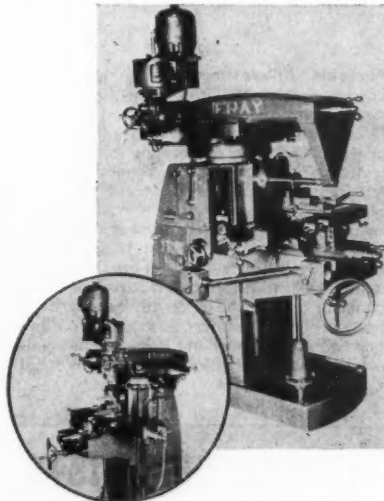
Package Wrapping Machine—The Package Machinery Company has adapted its Model DF machine to the wrapping of such products as 5 cent mint patties, sandwich crackers, cookies, etc., as well as to irregular-shaped candy bars. All forming and endfolding of the wrapper takes place over breaker bars and tuckers—not over the product itself, therefore irregularities in the shape do not affect the wrapping. Speed, up to 110 per minute, and the machine is adaptable to practically any type of wrapping material—cellophane, glassine, plain or laminated foil, etc. *Package Machinery Co., Springfield, Mass.*

243

Sidekar-Karrier Conveyor—Designed to handle bulk materials in a horizontal, run-around path within minimum headroom, this new Karrier provides conveyor storage for materials that are to be discharged simultaneously in varying quantities at a number of points. The conveyor is self-feeding and self-discharging, and the material is carried in buckets supported on rollers rather than being dragged by flights in a trough. The design is such that two or more materials can be separately fed to the conveyor with the assurance that the admixture will not be disturbed in transit, and that it will be delivered to any predetermined discharge point in exactly the same mixed proportions as prevailed at the feedpoints. The Link-Belt Sidekar Karrier is available in two types. *Link-Belt Company, 307 N. Michigan Ave., Chicago.*

244

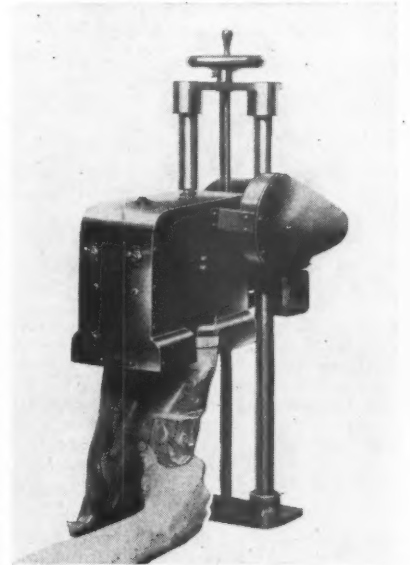
Milling Machine—The outstanding feature of this new model milling machine, Fray No. 9, turret head, ram type, built for vertical or horizontal work operations, is the variable speed to power feed achieved by an electronic control panel built-in as an integral part of the equipment. It is particularly adapted to difficult jobs



involving a wide variety of operations on a single piece of work. Work operations include precision jig boring, slotting, drilling, tapping, keyway milling, end milling, profile milling, die sinking, plastic mold routing, serrating, spot facing, counter boring, punch forming and spline milling. *Fray Machine Tool Co., Glendale 4, Calif.*

245

Packaging Machine—A rotary-type, crimp heat-sealer that seals cellophane, plastic-treated bag caps and all similar heat-sealing materials, is this new type packaging machine, the C-K Heat Sealer. Fastened to a bench or table it can



be fed by hand or conveyor. No brushes or commutator to wear out, and all moving parts, belts and pulleys are safely guarded. *Codie-Kay Company, 1139 San Julian Street, Los Angeles 15, Calif.*

246

Welder's Clipping Hammers—Chicago Manufacturing & Distributing Company announces an addition to its line of welder's clipping hammers. Handles are made of high-grade 3/8-inch round steel and have special hand grip to absorb shock when chipping and to hook on welder's belt when not in use. A removable wire brush is fastened to the handle by special clamps and counter sunk screw. *Chicago Mfg. & Distributing Co., 1928 West 46th St., Chicago 9, Ill.*

247

Holder With Collar—Designed to prevent slipping in the welder's mitt or glove when changing rods, an all-plastic, four-cornered collar has been incorporated in the 300 amp., Stubby model electrode holder manufactured by Martin Wells, Los Angeles, Calif. *Air Reduction, 5886 Compton Ave., Los Angeles 1, Calif.*



Yessir!

I'm Interested in Anything New That Will Help Me Do a BETTER JOB.

WESTERN INDUSTRY
503 Market Street
San Francisco

Please send me information on the following items:

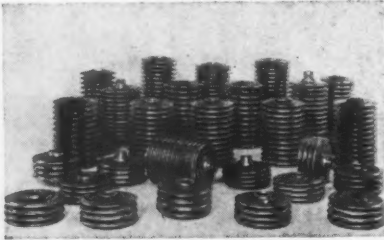
.....
.....
.....

Name..... Title.....

Company.....

Address.....

Autoflight Metallic Bellows—Autoflight, a division of G. M. Giannini & Co., specializes in the manufacture of fabricated metallic bellows. Engineered to customer specifications, autoflight bellows are made from stainless steel, phosphor bronze, beryllium copper, brass, or special alloys. These units range from custom-made closely held bellows, designed by Auto-



flight engineers to fit the most exacting requirement, to mass produced low cost bellows of standard types and characteristics. Made in many sizes, they are used as temperature regulator elements converting pressure effects into controlled movement, as pressure and shaft seals, as mechanical actuators, and as volume expansion compensators. G. M. Giannini & Co., Inc., Pasadena, Calif.

249

Oily Waste Can—A new and improved type of can for industrial use is constructed of galvanized steel and provides safe, simple storage of oily waste and other inflammable materials. Top is weighted and fits can snugly, and the foot-operated opening mechanism hugs can exterior with no protruding parts to rip or catch on clothing. Air vents in the body between bottom of container and floor allow good air circulation. Rochester Can Company, Rochester, N.Y.

250

Arc-Welding Electrode—Known as "Murex Type HTS," this new arc-welding electrode is mineral coated, with less penetrating arc than so-called "hot rods." The weld metal produced is of high tensile strength, with the ductility and X-ray soundness of metal produced by downhand electrodes. Metal and Thermit Corporation, 120 Broadway, New York, N.Y.

251

Motor Energizer—The new Delabco Motor Energizer, applying the scientific principle of water vapor injection, gives smooth over-all engine operation even with low-octane gasoline, softens and reduces carbon. Construction is simple, and the only servicing required is a periodic addition of water to maintain the proper level of the chemical solution in the Energizer. Delabco, 500 Sansome Street, San Francisco 11, California.

252

Positioner—This positioning fixture for welding end rings to cage bars is a square frame, supporting the rotor of a power generating unit, and controlled by a foot pedal. A small quick pressure on the pedal will cause rotation of the vertical axis and a catch is provided so that each kick on the pedal limits the rotation to 180. The advantage of this new method is in the welder being able to do positioning without putting down his equipment. The Hobart Brothers Company, Troy, Ohio.

253

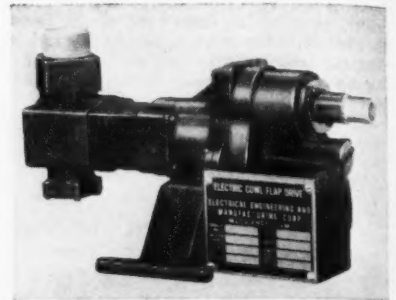
Tool Sets—The Model "D" Micro-King Borelocator tool set has 17 basic parts and yet can make 17 million different combinations. In the one cabinet are 1,000 precision Micro-King parts ready to assemble for jig requirements. It drills holes accurately, spots holes quickly, locates pin centers and bore locations, and is suitable as a perforating fixture for metal and plastic materials. Steel Tools, Inc., 2307 Prospect Ave., Cleveland 16, O.

254

Portable Kilovoltmeter—A new addition known as No. 759, this kilovoltmeter has 5 ranges that provide 1, 2, 5, 10, and 20 kilovolts DC at full scale. The accuracy of the built-in meter is 2 per cent. A reversing switch makes it unnecessary to change the connections to the terminals of the Kilovoltmeter if the polarity is reversed. Binding posts are available so that an external meter may be used if full scale accuracy better than 2 per cent is required. The resistance multiplier section is carefully adjusted within 0.1 per cent so that, if required, more accurate meters may be used with the external connection. The instrument is mounted on an engraved bakelite panel and is housed in a golden oak case 10 3/16 x 10 1/2 x 10 in. Shallcross Mfg. Co., Collingdale, Pa.

255

Cowl Flap Actuating Motor—This motor was designed specially for cowl flap actuating on the Douglas A-26 attack bomber, and custom built throughout to combine an electric motor, gear reduction and control unit to fit awkward mounting conditions and limited space. The cowl flap maintains proper engine temperatures under



varying conditions. Unit consists of 1/6 hp motor, thermally protected, magnetic clutch and brake, straight 8 to 1 gear reduction provided for opening and closing flaps, with double reduction and worm drive to operate cams limiting travel of flap. Complete, only weighs 4 3/4 lbs. Electric Engineering & Mfg. Corp., 4606 West Jefferson Blvd., Los Angeles 16, Calif.

256

Plastic Gasket—A new gasket material, called "Plastic Gasket" can be applied to surfaces or flanges, etc., about 1/64 in. thick, with knife or fingers and may be applied over ordinary gaskets to increase their effectiveness and preserve them so they can be used again and again. Plastic Gasket prevents leakage, oxidation, corrosion; will not dry out, burn out or blow out, and is unaffected by temperature and pressure. Six pounds of Plastic-Gasket covers approximately 6000 square inches, 1/64 in. thick. Flexrock Co., Philadelphia, Pa.

257

Metal Tool Box—Special features of this all-purpose metal tool box in green enamel finish, include a quicklocking, removable nine division tray compartment arrangement; recessed end grips, and recessed handle on top. It is also equipped with a wear resistant catch, lock and hasp. Pioneer Steel Company, 311 West Ave. 33, Los Angeles 31, Calif.

258

Hydraulic Packing—A hydraulic packing that does away with extrusion damage has been developed by The Weatherhead Company and is explained in their recent published catalog. Weatherhead Co., Cleveland, Ohio.

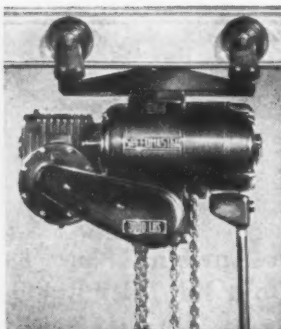
259

Soldering Stand—The new model SS11 soldering stand features an adjustable hood and fume stack, embodies the flexibility required for soldering with either iron, torch or soldering pot, and the hood and fume stack can be raised and lowered to accommodate any of the three heating elements used in soldering. The fume stack is 3 x 9 1/4 x 32 inches high, the hood is fitted with a plate glass window (or magnifying glass), its exterior is finished in black crackle while the underside of the hood is finished in white to reflect all the light possible. Department SS, Ess Specialty Corp., 96 S. Washington Ave., Bergenfield, N.J.

260

Multi-Purpose Cart—This new carrying unit is ideal for hauling and dumping ashes, scrap, small parts, mixed concrete, liquids, fertilizers and other material. Has a heavy steel body, tubular handles extending 34 inches, legs of heavy angle iron, and is equipped with two 24 x 2 in. steel spoke wheels. Palmer-Shile Co., 778 South Harrington, Detroit 17, Mich.

SPEEDMASTER and CABLEMASTER HOISTS



SPEEDMASTER
Standard Heavy Duty Shop Hoist

Rugged, Reliable, Fast!

SPEEDMASTER CAPACITIES

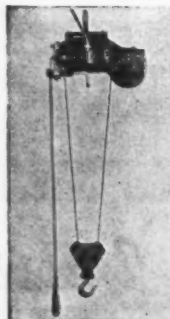
250 lb.	2000 lb.
500 lb.	3000 lb.
1000 lb.	4000 lb.
	6000 lb.

CABLEMASTER CAPACITIES

250 lb.	500 lb.	1000 lb.
---------	---------	----------

Each CABLEMASTER especially designed for its rating. Equipped with hook or trolley mounting. Quickly attached to present monorail. Four-foot jib crane also available.

Write for
Literature, Specifications, Prices



CABLEMASTER
New, Light Cable Hoist



YOURS FOR THE ASKING

1784

Precision Lathes—South Bend Lathe Works' newest 36-page Catalog 9-G, just off the press, illustrates in full color and completely describes its line of 9-inch engine lathes and toolroom lathes. Also shown are their 9-inch precision turret lathes which have $\frac{1}{2}$ -inch collet capacity. *South Bend Lathe Works, South Bend, Ind.*

1785

Aircraft Quality Gears—Foote Bros. Gear and Machine Corporation has just released an Engineering Bulletin presenting complete engineering data, comparative performance curves, design details, operating speeds and other data on their "AQ" gears. *Foote Bros. Gear & Machine Corporation, Chicago, Ill.*

1786

Power Factor—"The A B C of Power Factor" is a new 20-page booklet explaining power factor in detail, illustrated and printed in 3 colors. *Electric Machinery Mfg. Company, East Minneapolis, Minn.*

1787

Coated Abrasives—Claiming to be the first complete handbook printed on coated abrasives, this 36-page book gives up-to-date and authoritative information about abrasives in use, the difference between technical and non-technical abrasives, the several kinds of backings, coatings, grain sizes and on what jobs each should be employed. *Clover Mfg. Co., Norwalk, Conn.*

1788

Pallets and Fork Trucks—"Materials Handling News," a 24-page pictorial published by Clark Tractorator illustrates how pallet and maneuverable fork truck revolutionized wartime materials handling. Also illustrated are several types of pallets currently used for different types of material. *Clark Tractorator, Battle Creek, Mich.*

1789

"Let's Look at Portland"—The Portland, Oregon, Chamber of Commerce has just released this new book which seeks to give factual information such as would be required by any business man who wishes to survey the business possibilities of Portland. By means of photographs, maps, and text supported by statistical data, the book answers questions on population, resources, water, fuel, power, climate, transportation, labor, taxes, sites, and other factors about the Portland area. Printed on good paper, contains 48 pages and cover, $8\frac{1}{2}$ x 11 inches, with plastic binding. *Chamber of Commerce, Portland, Oregon.*

1790

Diesel D8 Tractor—In a new 32-page catalog is described the "Caterpillar" Diesel D8 Tractor. Features of the sturdy 113 drawbar horsepower tractor and the Diesel engine that motivates it are shown, along with views of the product in action on many jobs. *Caterpillar Tractor Co., Peoria, Ill.*

1791

Cleaning Disinfection—A 20-page booklet describes Oakite "Tri-Dan" which simultaneously performs the triple function of deodorizing, cleaning and disinfecting in one operation, designed to lower the cost and simplify the handling of industrial plant hygiene. *Oakite Products, Inc., Los Angeles, Calif.*

1792

Filters—Just published is an 8-page booklet discussing filtration for the chemical, food, fermentation, and processing industries. *The Niagara Filter Corporation of United States and Canada, Buffalo, New York.*

1793

Disk-seal Electronic Tube—A new eight-page publication on the disk-seal electronic tube, widely known among radio engineers in the military services as the "lighthouse tube," has been announced by General Electric Company. The pamphlet describes the basic principles of design and operation of the tube and its advantages in the fields for which it is designed, and which will be applied to television, FM radio and other fields in the ultra-high frequency spectrum. *General Electric Company, Schenectady, N. Y.*

1794

Temperature Control Cabinets—Catalog 325, issued by Precision Scientific Co., contains 48 illustrated pages pertaining to "precision" Freas constant temperature control cabinets, including a variety of standard models, as well as many photographs of constant temperature cabinets and baths built to specifications. Included also is general information pertaining to mechanical and gravity convection heat transfer. *Precision Scientific Co., Chicago, Ill.*

1795

Industrial Music—It is believed business executives and factory owners will be interested in a recently published brochure, "The Story of Music-at-Work" and give him an understanding of the complete history of music in plants and factories. Besides giving the story of music at work traced from the earliest times to today, it tells the actual results of recent government and college research into the results obtained from the playing of planned music in plants and factories. *J. A. Richards, Excetone, Inc., New York, N. Y.*

1796

Blow and Spray Guns—A booklet, explaining the principle of Lonn valves which have only three working parts and give constant fingertip control of air or water under pressure without the use of levers, springs, push buttons, packings or screws, in addition to charts which show the cost of air or water delivered through various sized orifices when uncontrolled, is published by the B. F. Goodrich Company of Akron, Ohio.

1797

Material Handling Equipment—In a condensed circular, Bulletin 139, Lyon-Raymond Corporation have published brief descriptions of standard equipment, showing how all Lyon-Raymond material handling equipment elevates hydraulically through hand, foot-operated or motor-driven hydraulic pumps which have the best performance qualities throughout the full range of loads. More detailed information on each item is given in the separate bulletin indicated on each description. *Lyon-Raymond Corp., Greene, N. Y.*

1798

Cherry Rivets—A new pocket manual gives at a glance a general picture of what Cherry Rivets are and can do. Fully illustrated in three colors, this booklet covers the several basic types, their installation methods and application. Of particular interest is the comparison between "blind riveting" and "pull riveting." *Cherry Rivet Co., Los Angeles.*



STOP CORROSION

DON'T REPLACE TUBES!

Here is a chemical treatment that dissolves scale, rust and corrosion... it neutralizes the elements that cause corrosion... and protects the metal.

A small amount of Saverite Boiler Metal Treatment used regularly prevents further pitting and rusting. Saverite will not evaporate from the boiler nor pass over with the steam. Will not affect packing or any product contacted by steam. Used extensively by dairies, hospitals, mines, laundries, hotels, breweries, etc. Write for information today!

Saverite Boiler Metal Treatment
5800 S. Hoover St., Los Angeles 44, Calif.

TRADE WINDS (Cont'd from Page 90)

After six and a quarter years as the prime mover in the Taylor Sales Agency of the American Felt Company, W. A. Taylor has formed the Taylor Felt and Supply Company with offices at 16 First Stret, San Francisco. The new organization is branching out with a coastwise sales set-up that expects to furnish an even wider range of types and styles of felts to manufacturers and consumers on the Pacific Slope.

W. E. Evans, Jr., formerly with the San Francisco office of George S. May Co., is now associated with the Robert M. Taylor Company, 116 New Montgomery Street, San Francisco.

A. F. McGraw, until recently general sales manager of the Allis-Chalmers tractor division, Milwaukee, has been named director of sales of Food Machinery Corporation, San Jose.

Edward S. Christiansen, president, Edward Christiansen Co., service engineering and sales concern, and also president of the Magnesium Association, New York, has announced the opening of a showroom, technical library and office at 831 S. Flower Street, Los Angeles. In charge of the Los Angeles office and exhibits is William J. Kelly, western manager of the Christiansen company.

Wallace G. Imhoff Co., consultant in zinc coating, has moved from Vinland, N.J., to 905 South Bedford Street, Los Angeles.

Albert R. Tucker has been appointed to the position of West Coast manager, at El Monte, Calif., for E. I. du Pont de Nemours & Co., Wilmington, Del.

L. E. Berhauser, L. S. Rogers, W. L. Robertson, and C. J. Collins, have formed the Allied Tool & Abrasive Supply Co., located at 423 East 12th Street, Los Angeles.

A. E. Perkins has returned to his former position as manager in charge of the Denver branch of the Crucible Steel Company of America, with offices at 2635 Walnut Street, Denver. For nearly three years Perkins served as lieutenant colonel in the Army Air Forces.

John A. Ruthven, former West Coast manager of Cleveland Pneumatic Tool Co., has been appointed manager of Aircraft Tool Co., a new organization for sales and distribution of Aircraft Tools, Inc., products, located at 1811 South Hope Street, Los Angeles.

Floyd Pratt, formerly assistant manager of gasoline sales, is the newly appointed district sales manager for Tide Water Associated Oil Co. in the Territory of Hawaii.

Industrial designer Walter Dorwin Teague has opened new offices and extended the services of his organization to the Pacific Coast. The new Teague offices are located in the Title Guarantee Building, Los Angeles.

Herbert King of King and Anderson has been appointed field representative for the General Alloys Company for the State of California with offices at 625 Tilden Sales Building, 420 Market Street, San Francisco.

INDEX TO ADVERTISERS THIS ISSUE

	Page		Page
Acme Steel Company.....	83	Linde Air Products Company, The.....	29
Aladdin Heating Corp.....	85	Link-Belt Company, The.....	13
Anglo California Nat'l Bank.....	60	Maas, A. R., Chemical Co.....	75
Bay Cities Asbestos.....	84	Marine Engineering & Supply Co.....	64
Betts Spring Company.....	88	Master Electric Company.....	92
Brooks Equipment Company.....	69	McCarthy Company, The.....	49
California Barrel Co., Ltd.....	3rd Cover	Meriam Instrument Company.....	85
Chain Belt Company.....	4	Meyer, Wilson & George, Company.....	94
Clark Tractor Division.....		Michigan Tool Company.....	31
Clark Equipment Company.....	57	Moore Corporation.....	8
Clipper Belt Lacer Co.....	77	Nelson Specialty Welding Equip. Corp.....	12
Colson Equipment & Supply Co.....	89	Newcomb Audio Products Co.....	74
Commercial Iron Works.....	6	Oakite Products, Inc.....	80
Consolidated Steel Company.....	19	Pacific Tube Company.....	55
Crocker First Nat'l Bank.....	74	Payne Furnace & Supply Co.....	73
Detroit Hoist & Machine Co.....	82	Pioneer Rubber Company, The.....	71
De Young Bros. Machinery Co.....	87	Pioneer Rubber Mills.....	56
Downs Crane & Hoist Company.....	70	Poulsen and Nardon, Inc.....	24
Eastman Tag & Label Company.....	76	Rapids-Standard Company.....	81
Eccles & Davies Machinery Co.....	81	Raymond, Albert, & Associates, Inc.....	89
Elwell-Parker Electric Co.....	10	Redington, F. B., Company.....	74
Engineering Products Company.....	66	Revere Copper & Brass, Inc.....	22
Enterprise Engine and Foundry Co.....	17	Roebling, John A., & Sons.....	63
Fairbanks Morse & Company.....	14	Savarite Engineering Company.....	93
Farval Corporation, The.....	86	Service Caster & Truck Co.....	71
Flexible Steel Lacing Co.....	83	Shell Oil Company.....	11
Food Machinery Corporation.....	85	Signode Steel Strapping Co.....	53
Fruehauf Trailer Company.....	32	Sisalkraft Company, The.....	65
Galland-Henning Mfg. Co.....	62	Smoot-Holman Company.....	67
Garrett-Callahan Co. of Calif.....	90	Spencer & Morris Co.....	76
General Electric Company.....	51	Square "D" Company.....	15
General Pacific Corporation.....	20	Standard Conveyor Company.....	59
Goodall Rubber Company.....	75	Standard Oil Company.....	34
Greenberg's, M., Sons.....	80	Stauffer Chemical Company.....	58
Grundred Crusher & Pulverizer Co.....	87	Stephens-Adamson Mfg. Co.....	4th Cover
Harnischfeger Corporation.....	25	Stonhard Company.....	86
Harper, H. M., Company.....	73	Stuart Oxygen Company.....	73
Harvey Machinery Company.....	94	Sturtevant, B. F., Company.....	23
Hendy, Joshua, Iron Works.....	21	Thomas Truck & Caster Company.....	90
Horn, A. C., Company.....	7	Tidewater Associated Oil Co.....	28
Hyster Company.....	47	Towmotor Corporation.....	18
Industrial Equipment Co.....	82	Union Carbide & Carbon Corp.....	29
Isaacson Iron Works.....	88	Union Oil Company.....	9
Janette Manufacturing Co.....	77	United Autographic Register Co.....	26
Johnson Gear & Mfg. Company.....	88	Vacuum Can Company.....	84
Johnson Manufacturing Company.....	72	Victor Equipment Company.....	2nd Cover
Johnston, A. P., Company.....	74	Warman Steel Casting Co.....	61
Jorgensen, Earle M., Company.....	27	Western Asbestos Company.....	3
Kelite Products, Inc.....	72	Western Pipe & Steel Co.....	30
Kobe, Incorporated.....	16	Wrigley, Jr., William, Company.....	68

MECHANICAL ENGINEERS ELECTRICAL ENGINEERS

• Engineers experienced in Machine Design and Sheet Metal Products or Household Appliances.

• Must have successful pre-war background. Permanent position with large, progressive organization. In replying give full particulars . . . places worked, projects, etc.

Institute of Product Research
Dept. LAH—448 S. Hill Street
Los Angeles 13, California

TENITE an EASTMAN PLASTIC

☆ *Headquarters for Ideas* ☆

ON THE USE OF PLASTICS

For war needs now and for planning postwar products . . . send for illustrated booklet describing Tenite applications and properties.

WILSON & GEO. MEYER & CO.
LOS ANGELES SAN FRANCISCO SEATTLE

WHEREVER A PRODUCT GOES, IT GOES IN A CONTAINER

Safe Conduct for Two Bushels of Beans



A producer can seldom accompany his product to give it loving care enroute. Modern shippers must depend upon the shipping container to provide product protection. The selection of containers may mean success or failure to a marketing venture. Container experts offer a valuable service to the producer, whether his shipments are local or global.

For more than sixty years, Cabco have specialized in the design and production of wooden shipping containers. You'll find Cabco willing and energetic experts in solving difficult container problems. Their experience covers everything from fresh grapes to water heaters, from beans to bullets. Remember the great strength of wood offers the maximum of product protection . . . its lightness offers the minimum of tare weight. Investigate Cabco containers now, no obligation, of course.

CABCO CONTAINERS

DESIGNED TO FIT—ENGINEERED TO PROTECT

A Partial List of Cabco Containers



CABCO TUB BASKETS
For potatoes, sprouts, peas & other vegetables.



SLICED Unitized COVERS
For all fruit and vegetable containers.



ALL-BOUND BOXES
Thin wood veneer, stitched with steel wire. No hammer, no nails needed—open or close with bare hands.



CABCO BARRELS
Tight or slack barrels and kegs made from Douglas Fir for anything from sugar to soap, molasses to vinegar.

Distributors of sawn shook for all fruit and vegetable containers.

CALIFORNIA BARREL CO., Ltd.

Since 1883

100 Bush Street, San Francisco 4, California

Offices: 2581 E. Eighth St., Los Angeles 23, Calif.

501 Dooley Bldg., Salt Lake City 1, Utah

Plants: Arcata, San Francisco and Los Angeles, Calif.

1071

BUY WAR BONDS

RETURN POSTAGE GUARANTEED
WESTERN INDUSTRY

503 MARKET STREET
SAN FRANCISCO, CALIF.

FORM 3547

POSTMASTER:

If addressee has removed, notify sender on Form 3547, postage for which is guaranteed.
503 Market Street, San Francisco

SEC. 562, P. L. & R.
U. S. POSTAGE

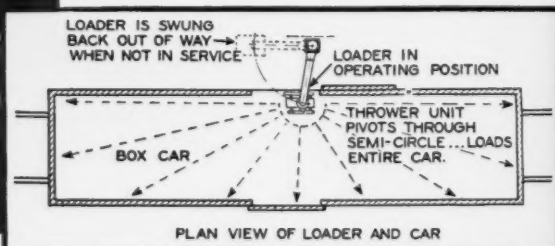
PAID

San Francisco, Calif.
Permit No. 4167



LOADING AND TRIMMING MADE
Easier than ever before

Just swing the
SWIVELOADER
inside car door—
throw the switch
and let it go!



Loading and trimming box cars has been reduced to a fast, simple and low cost operation with the Stephens-Adamson SWIVELOADER. This recently developed unit takes loose, granular or bulk materials up to 2 inches in particle size and throws them into the far corners of the car. Distance and direction are regulated by an operating lever, while the loader is in operation.

Furthermore, because the SWIVELOADER operates automatically except for occasional adjustment of angle of throw, it frees men from the drudgery and dust hazards of manual loading.

Write us for SWIVELOADER bulletin No. 1044 which gives full details on this equipment.

Call on S-A for All Handling Needs

Shown above is an S-A Bucket Elevator storing bulk materials into twin silos. S-A designs and builds complete bucket elevator installations for any requirement, along with a complete line of belt and pan conveyors, feeders, screens and other handling equipment.



503 Market Street
San Francisco 4, California

STEPHENS-ADAMSON MFG. CO.
2227 E. 37th ST., LOS ANGELES 11, CALIF.

525 Dowsy Block, Salt Lake City, Utah
1007 E. Burnside St., Portland 14, Oregon

A. R.
E

Calif.
67

anced
ens-
ped
ches
rs of
per-

rates
ngle
dust

1044